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## INTRODUCTION

This publication does not aim to present another history of Greek and Roman art, nor a collection of photographs of the masterpieces of classical civilisation. It is designed to supply ample documentary evidence in all fields of the Pre-Hellenic, Hellenic, Etruscan and Roman civilisations. This documentation is to cover well-known monuments, as well as recent finds and unreported remains and objects. The text is restricted to a concise technical commentary for quick guidance and a succinct bibliography of the sources: the excavation reports, or, in default of these, the most authoritative publications.

Since *Monumenta Graeca et Romana* is in the first place designed as a collection of material for study, some specific questions are raised, affecting the selection and constitution of this material. A first limitation was imposed by the space available, which necessitated a rigid selection. I hope, however, that this choice will prove comprehensive and that all important aspects of the classical world have been given their full value. In the case of buildings especially, I believe that a smaller number of large pictures is to be preferred to a greater number of small ones, even though in the latter case more buildings could be presented. The complete work is to be published in 30 fasciculations (for the contents see back-cover), which will finally constitute 10 volumes, containing well over 500 pages of reading-matter and 5000 pictures.

The volume on Greek architecture, which is to a large extent based on my course of lectures on this subject (at the university of Ghent) is subdivided into four chapters—fasc. 1 comprises chapter I: Religious Architecture; fasc. 2 chapter II Civil Architecture and chapter III Military Architecture; fasc. 3 chapter IV Technical Problems, followed by reconstructions and plans, which may thus be placed beside the plates. It goes without saying that it was often very difficult to draw a sharp dividing line between religious and civil architecture, e.g. in the case of some theatres, sepulchral monuments, etc. It is imperative, however, to follow some system and I sincerely hope that the advantages of a clear classification will outweigh the disadvantages of its sometimes arbitrary nature. It has been my endeavour to introduce a number of lesser known monuments beside the famous ones. Some of these, for instance a few theatres and numerous fortifications, are still awaiting first publication. Others have been spoilt by modern civilisation: such as the Pnyx (by the sound and light play) and the sepulchral monument at Glyphada, which was removed to make room for the extension of the airfield. I should like to think, also, that this work may serve as an inducement to further exploration. With a few exceptions, I took the photographs myself, always aiming to preserve a maximum of objectivity. The date of the photographs—in all cases as recent as possible—is always given after the title. Wherever space permitted, the general views were supplemented with characteristic details. Plans and reconstructions of those remarkable remains, to which a photograph cannot do full justice, will be given in fasc. 3.

Finally I should like to acknowledge gratefully the help given me by Georges Daux, director of the "Ecole française d'Athènes", E. Kunze, first director of the "Deutsches archäologisches Institut in Athen", Professor R. Ginouvès, S. Dakaris, E. Raftopoulou, Dr. J. Dörig and the executive of the publishing house of E. J. Brill.

Ghent, 1962

H. F. MUSSCHE











## II. CIVIL ARCHITECTURE

### A. PUBLIC SQUARES AND BUILDINGS.

**FRONTISPIECE AND 65a. ATHENS—AGORA** (1959). View of the Agora from the west side of the Acropolis: on the left Kolonos Agoraios with the Temple of Hephaistos, on the right the reconstructed Stoa of Attalos (PLATE 66a-b). The American excavations, which were started in 1934, have uncovered the western, southern and eastern parts of the Agora while the northern section still awaits exploration. They have provided a definite solution for many problems relating to the Athenian Agora: the general topography through the successive periods and the exact location and identification of the structures, while precise dating has been made possible by numerous finds.

*Bibl.* Preliminary reports, published in *Hesperia* from 1933 onwards. The definite reports have appeared continuously since 1953: *The Athenian Agora, Results of Excavations Conducted by the American School of Classical Studies at Athens* (Princeton, New Jersey, vol. I 1953). See also I.T. HILL, *The Ancient City of Athens* (London, 1953) chapters V-VIII.

**65b. ATHENS—AGORA** (1955). The west side, seen from Kolonos Agoraios, with in the foreground the Hellenistic Metroon (II<sup>nd</sup> cent. B.C.) consisting of four rooms of various sizes sharing a colonnade 39 m. long. At the top, on the left, a large rectangular space represents the Temple of Ares (V<sup>th</sup> cent. B.C. but moved to its present location about the end of the I<sup>st</sup> cent. B.C. and reassembled). In the top right hand corner the Roman Odeion. Between the Metroon and the Odeion, the remains of a large Altar of Zeus Agoraios (IV<sup>th</sup> cent. B.C.).

*Bibl.* H. A. THOMPSON, *Buildings on the West Side of the Agora*, *Hesp.* VI (1937) p. 1-224.

**66a-b. ATHENS—STOA OF ATTALOS** (1960). Portico built by Attalos II of Pergamon (159-138 B.C.) on the east side of the Agora. The dimensions are 116.50 m. by 19.40 m. The building has two storeys: a ground floor with 45 Doric columns along the front (PLATE 66b) and 22 Ionic

columns inside with a series of 21 shops at the back, an upper storey with 45 Ionic columns, connected by a marble parapet (PLATE 66b), with a range of 22 Pergamene columns at the back. The structure itself, mainly built of poros, rests on breccia foundations; the orthostates and door frames are made of Hymettian marble, the columns of Pentelic marble. From 1953 to 1956 the building was completely restored to its original shape by the American School. At present it is being used as a museum for the finds in the Agora.

*Bibl.* See below PLATE 65a. For the reconstruction: esp. *Hesp.* XIX (1950), XXIII (1954) - XXVI (1957).

**67a-b. ATHENS—Pnyx** (1955, 1960). The site of the old popular assembly lies between the Hill of the Muses and the Hill of the Nymphs, opposite the Areopagus. In its present form of an ellipse segment, 119 m. wide by 70 m., it is a reconstruction, built during the Lycurgan period, of a fifth century structure. At the curvature the sloping terrace is supported by a massive retaining-wall (at present still 2 m. high), made mainly of ashlar blocks (PLATE 67b). The Bema is situated on the south side, flanked by two boundary walls which meet at this point, forming an obtuse angle of c. 158°. These two walls, as well as the Bema itself, are carved out of the living rock. The Bema is a simple three-stepped platform, 9.67 m. wide. Both on the east and on the west side a small flight of steps leads to a small central podium (PLATE 67a).

*Bibl.* The excavations in 1910, 1911, 1916 in Πρακτικά (1910) p. 127; (1911) p. 106; (1912) p. 237; (1916) p. 46. K. KOUROUNIOTES and H. A. THOMPSON, *The Pnyx in Athens*, *Hesp.* I (1932) p. 90-217. H. A. THOMPSON, *Pnyx and Thesmophorion*, *Hesp.* V (1936) p. 151-200. H. A. THOMPSON AND R. L. SCRANTON, *Stoas and City Walls on the Pnyx*, *Hesp.* XII (1943) p. 269-383.

**68a. ATHENS—STOA OF EUMENES** (1960). Portico erected by Eumenes II of Pergamon (197-159 B.C.) on the south slope of the Acropolis, 163 m. long

and 17.65 m. wide. Only the back wall, extremely strongly built in order to hold back the mass of earth, has been preserved. The materials are breccia, poros and Hymettian marble. A double portico, with another storey on top of it, ran in front of this retaining wall. The stoa was uncovered in 1877-1878.

*Bibl.* Brief reports in *Πρακτικά* (1877) p. 14; (1878) p. 6 with a plan. U. KOHLER, *Hallenanlage am Südfusse der Akropolis zu Athen*, *Atb. Mit.* 3 (1878) p. 147-154, Taf. VII. J. MARTHA, *Restes d'un portique au sud de l'Asklépieion*, *BCH* II (1878) p. 584-586, with a plan.

**68b. THASOS—AGORA** (Photo Ecole française d'Athènes). View of the agora from the east: in the foreground the marble wall on the east side of the agora, on the left hand side the "building with a pit VII", behind it the south-eastern portico VIII, 92 m. long, 17.12 m. wide, of 31 Doric columns and a hypostyle hall of 16 pillars (1st cent. A.D.). In the top right hand corner the beginning of the north-western portico with anastylosis of a single column (IIIrd cent. B.C.).

*Bibl.* The preliminary reports, published in the *BCH*, *Chronique des fouilles et découvertes*, LXXIII (1949) and following; R. MARTIN, *L'Agora I* (Études Thasiennes VI) (Paris, 1959).

**69a-b. MESSENE—PROPYLON AND SYNEDRION** (1960). From 1957 onwards, excavations were regularly undertaken by A. Orlandos on the site between the theatre and the agora. East of the agora, from north to south, a small theatre (in the background of PLATE 69a, see moreover PLATES 83 to 85a inclusive), a Propylon (PLATE 69a in the centre and 69b) and the Synedrion (PLATE 69a in the foreground) have been laid bare. The Propylon gave access to the agora; it numbered four pillars on the east side and two Corinthian columns on the west side. Across the middle a wall with three doors, the thresholds of which have been preserved. South of the Propylon there is a rectangular hall (20.80 m. by 21.60 m.) with stone benches on the three sides: the Synedrion. In both passages connecting the Synedrion and the agora there were two pairs of Corinthian semicolumns. The roof was supported by four central pillars.

*Bibl.* Pending the final reports: *Chronique des fouilles et découvertes*, *BCH* LXXXII (1958) p. 714-717; LXXXIII (1959) p. 636-639; LXXXIV (1960) p. 696-700. A. K. 'Ορλάνδου, *Τὸ "Εργον* 1957 ('Αθήναι 1958) and following years.

**70a-b-c. AEGAE—MARKET-HALL** (Photos Dr. J. Dörig, 1961). Nemrud-Kalessi, between Pergamon and Izmir, about 12 km. into the interior, was explored in 1886 by members of the excavation staff at Pergamon. Since then, further large parts of this important ruin have collapsed. In 1866 this wall was still standing for a length of 80 m. while it was, in some places, 11 m. high. It is only 0.87 m. thick. The building was originally 82.37 m. long and 11.45 m. wide, the northern wing being 27 m. wide. The hall numbered three storeys, subdivided into rooms and porticos. The doors (PLATE 70b) on the south-east side give access to the lower storey; the upper storey was composed of a portico, opening on to a more elevated terrace on the north-western side. The wall is isodomic with regularly alternating headers and stretchers, lending it a very characteristic aspect. In the general planning of Aegae as well as in the design of each individual building the influence of Pergamon is considerable.

*Bibl.* R. BOHN, *Altortümer von Aegae*, *JDAI* 2. *Ergänzungsbeft* (Berlin, 1889).

**71a-b. KAMIROS—CITY (a) AND ACROPOLIS WITH PORTICO (b)** (1960). In great part, yet in too perfunctory a manner, excavated by the Italians in 1928/1929, and restored to a considerable extent, but far from scrupulously. (The columns of the portico were blown down during a storm in 1962). The town is built against a slope and consists of three zones: in the north, the lower town (PLATE 71a in the foreground) with a large temenos; on the slope itself, the residential areas (PLATE 105 a-b), in the south, on the top of the hill, the Temple of Athena and a portico (PLATE 71b). The present ruins mostly date from the Hellenistic period.

*Bibl.* Apart from some very brief reports practically nothing has been published, even a street-plan is lacking. Pending a sound publication: G. JACOPI, *Esplorazione archeologica di Camiro II, Clara Rhodos VI-VII* (Rhodos, 1932-1941) *B, Acropoli*, p. 223-439 (mainly about the finds and photos).

**72a. DELOS—AGORA OF THE ITALIANS** (1955). The largest of all public buildings on Delos is situated immediately south of the sacred lake. The ground-plan is trapezoidal: around a central square a portico, and at the back of it along all four sides a wall with numerous openings; the latter gave access to rooms and recesses of varying dimensions. Three gateways opened on to the agora, the main entrance was to be found on the



west side. The lower storey was built in the Doric, the upper in the Ionic style. The outer dimensions of the rear wall of the portico were: north: 80.60 m., east: 61.95 m., south: 83.20 m., west: 68.45 m. The length of the stylobate is 239.47 m. (for 112 Doric columns) in the axis-line of the columns. The height of the Doric columns is 3.638 m. The agora was built for use by the Italian colony between 110 B.C. and 90 B.C.

*Bibl.* E. LAPALUS, *L'agora des Italiens (Expl. arch. de Délos XIX)* (Paris, 1939).

**72b. DELOS—STREET OF THE PORTICOS (1955).** This street runs from the Agora of the Compitaliastae in an easterly direction. It is bounded on the south side by dwelling-houses, to the north successively by the western portico, the portico of Philip, the southern portico, the so-called inclined portico and the angular portico.

*Bibl.* For the buildings: R. VALLOIS, *Le portique de Philippe, Les portiques au sud du Hiéron (Expl. arch. de Délos VII, 1)* (Paris, 1923).

**73a-b. DELOS—AGORA OF THE COMPITALIASTAE (1955).** The agora lies at the crossing of two important roads between the harbour area and the theatre in the south and the sanctuaries in the north. The square, 60 m. long and 32 m. wide, is covered with pavement slabs. It takes its name from the compitalia, a Roman festivity, celebrated there in the 1st cent. B.C. **PLATE 73b:** the east side of the agora with in the foreground a square monument (5.90 m.), behind it Mount Kynthos and to the right the theatre area.

*Bibl.* E. ARDAILLON, *Fouilles au port de Délos, BCH XX* (1896) p. 428-445. P. JOUGUET, *Fouilles au port de Délos, BCH XXIII* (1899) p. 56-85.

**74-75. EPIDAUROS—THEATRE (1959-1960).** The most harmonious and most beautiful of all Greek theatres was erected by Polycleitus the Younger in the latter half of the IVth cent. B.C. Excavated by Greek archeologists from 1881 to 1883. **PLATE 74a.** Western parodos. The gateways form at the same time connecting elements between the retaining-walls of the koilon and the scene. They consist of three massive piers with a decorated architrave.

**PLATE 74b.** View of the auditorium from the north-west, with on the extreme left hand side the eastern parodos. The auditorium is almost

entirely rock-cut and comprises a little more than an apparent semi-circle. Actually, the two outermost kerkides have a longer diameter than the rest, which gives more room towards the scene on both sides between the first row of seats and the orchestra. (for practical as well as aesthetic reasons).

**PLATE 75a.** The 55 rows of seats are divided by the diazoma into two storeys: a lower storey containing 34 rows and an upper one with 21. From the orchestra, 13 stairways lead to the diazoma so as to form 12 kerkides. The seventh stairway lies on the axis of the theatre. Above the diazoma, additional stairways divide the sectors, once more, to form half-sectors. The outermost half-sector on either side, however, was omitted on account of the bad view, so that we count 23 stairways and 22 half-sectors in all. The gradient of the auditorium is steeper above the diazoma than below it.

**PLATE 75b.** The orchestra forms a complete circle (radius 10.15 m.) All the way around it runs a stone-paved gutter for the drainage of water. 0.60 m. outside the circle of the orchestra lies the proscaenium and behind it the scene, of which only the foundations are fully preserved.

*Bibl.* Preliminary reports: Καββαδίας in *Πρακτικά* (1882) p. 3-40 (1883) p. 75-77 (1884) p. 46-48 (1903) p. 59. P. Cavvadias, *Fouilles d'Epidaure I* (Athènes, 1891) § 2 *Le Théâtre*, p. 10-13. A. Defrasse and H. Lechat, *Epidaure* (Paris, 1895) p. 193-228. A. Fossum, *Harmony in the Theatre at Epidauros, AJA XXX* (1926) p. 70-75. Definite study: A. von Gerkan & W. Müller-Wiener, *Das Theater von Epidauros* (Stuttgart, 1961).

**76a-b. OROPOS—THEATRE IN THE AMPHIAREION (1961).** The theatre was excavated by Leonardos in 1886, in 1960 the anastylosis of the proscaenium was started. The greater part of the koilon has disappeared, the scene and proscaenium on the contrary have been very well preserved (the marble semi-columns, 1.887m. high, important portions of the architrave and fragments of the upper storey). The radius of the orchestra is 6.18 m. The five thrones of the proedria are distributed unsymmetrically and were added at a later period (according to W. Dörpfeld and H. von Gaertringen during the time of Sulla, *Ath. Mit.* 49 (1924); VON GERKAN *Gnomon* 9 (1933) makes his reserves). The oldest parts date from the IVth cent. B.C. (according to E. Fiechter IIIrd cent. B.C.). A first alteration (the proscaenium) dates from after 200 B.C. (according to E. Fiechter

from the middle of the II<sup>nd</sup> cent. B.C.). A second alteration (the scene) took place another 50 years later.

*Bibl.* W. DÖRPFELD, *Περὶ τῶν ἐν Ἀμφιαρείῳ Ὀικεδομημάτων, Πρακτικά*, (1884) p. 88-93. B. I. ΛΕΟΝΑΡΔΟΣ, *Ἀμφιαρείου Ἀνασκαφὴ τοῦ 1886, Πρακτικά* (1886) p. 51-56. E. FIECHTER, *Das Theater in Oropos* (Stuttgart, 1930) with an important review by A. VON GERKAN, *Gnomon* 9 (1933) p. 145-152.

**77-78. ERETRIA—THEATRE** (1960). Excavated by the American School in 1891, 1894 and 1895. The auditorium comprises 11 sectors and 12 stairways. Originally there must have been about 25 rows of seats; a diazoma is lacking and the maximum height above the orchestra is only 9.07 m. It was supported by a poros analemma, at present in a very bad state. The orchestra has a radius of 11.02 m. and is surrounded by a semi-circular drainage-gutter (inside width 1.88 m. to 1.91 m.), which is connected to a subterranean sewerage-system. A subterranean passage, 13.09 m. long, 0.89 m. wide at the base and 2 m. high, goes up to the orchestra. On either extremity, access is given by a stairway. The oldest theatre consisted only of an orchestra, a scene and two projecting parascenia. At the time of the great rebuilding the orchestra was excavated 3.35 m. deeper (to gain more seats). At the old level a new scene was built in front of the first scene, between the two parascenia. At the new level a proscenium was built, to which a vaulted tunnel (span of the barrelvault: 2.04 m.) underneath the scene buildings gave access.

Date: the oldest construction dates from the V<sup>th</sup> cent. B.C.; the great rebuilding (from wood to stone) in the latter half of the IV<sup>th</sup> cent. B.C. A renovation of marble dates from the end of the III<sup>rd</sup> cent. B.C. (according to VON GERKAN first half II<sup>nd</sup> cent. B.C.).

*Bibl.* *Discoveries at Eretria in 1891*: A. FOSSUM, *III Excavations in the Theatre*; IV *Stage-building of the Theatre*; C. L. BROWNSON, *V Orchestra and Cavea of the Theatre*, *AJA* VII (1891) p. 253-280. E. CAPPS, *Excavations in the Eretrian Theatre in 1894*, *AJA* X (1895) p. 338-346. TH. W. HEERMANCE, *Excavations of the Theatre at Eretria in 1895*, *AJA* XI (1896) p. 317-331. E. FIECHTER, *Theater in Eretria* (Stuttgart, 1937) review by A. von Gerkan, *Gnomon* 17 (1941) p. 115.

**78b. THORIKOS—THEATRE** (1960). The ground-plan of this small theatre is completely irregular. The lower part of the auditorium is built against

the hill-side, the upper part rests on an artificial elevation between an analemma 118.50 m. in length (the wall is straight for a distance of 17.50 m.; the height varies between 1 m. and 3.70 m.) and an almost parallel retaining-wall inside. The koilon comprises 31 tiers of seats and only the lower part (south of the inner wall) is divided by 2 stairways into 3 kerkides. Two ramps, built against the analemma, gave access to the upper rows of seats. The oval orchestra rests on a terrace with a retaining wall of 29.60 m. This terrace is bounded on the west side by a little Temple of Dionysus (18.70 m by 6.28 m.) so that only a narrow parodos is left and on the east side by an oblong building containing two rooms (respectively 7 and 8 m. by 2.85 m.) and facing west.

Date: V<sup>th</sup> cent. B.C. with later reconstructions.

*Bibl.* W. MILLER, *The Theatre of Thorikos, Preliminary Report, Papers of the American School of Classical Studies at Athens*, IV (1885-1886) p. 1-21; W. L. CUSHING, *The Theatre of Thorikos, Supplementary Report*, *ibid.* p. 22-34.

**79a. ATHENS—THEATRE OF DIONYSUS** (1960). View from the north. The present ruins testify to almost seven centuries of building activity and numerous problems concerning the architectural history are still unsolved. Four Greek periods, as well as various Roman rebuildings and alterations may be distinguished. a) The oldest phase (VI<sup>th</sup> cent. B.C.); the koilon was no more than the natural slope; there are virtually no traces of permanent constructions for koilon, orchestra or scene. b) Periclean theatre (latter half of the V<sup>th</sup> cent. B.C.): a steeper slope for the koilon, breccia foundations and marble constructions for some parts. c) Lycurgan theatre (342-326 B.C.): rebuildings in all parts: koilon divided into 13 kerkides with 14 stairways and a diazoma 4.56 m. wide, radius of the orchestra 9.79 m. A long scene together with two parascenia was built against the Periclean portico. d) Hellenistic theatre (II<sup>nd</sup> cent. B.C.): the parascenia are shortened and a proscenium is erected between them. e) Roman theatre: in the orchestra a marble floor is laid, to make it suitable for naval combats; erection of a new scaenae frons and a logeion of the Roman type.

*Bibl.* The bibliography is very extensive, being often of a polemical character.

E. FIECHTER, *Das Dionysostheater in Athen*, 3 Hefte (Stuttgart, 1935-1936) to be supplemented by A. von

GERKAN, reviews in *Gnomon* 14 (1938) and 23 (1951). A. W. PICKARD-CAMBRIDGE, *The Theatre of Dionysos in Athens* (Oxford, 1946).

**79b. SICYON—THEATRE** (1959). This theatre, built against the northern slope of the upper town, is one of the largest in Greece. It was excavated by the Americans in 1886. The scene consists of a central structure, two slopes carved out of the living rock with a square hall behind the south-eastern slope, and a fountain-house behind the north-western slope. The radius of the orchestra is 12.15 m. A drainage-channel runs straight across the orchestra and underneath the scene; later it was rebuilt as a subterranean passage. The koilon is divided by 16 stairways into 15 kerkides: 13 equal ones and at either end a wider one. Two vaulted passages give direct access to the diazoma.

Date: its erection dates back to the removal of the town to the interior, i.e. 303 B.C. The Roman alteration dates from the middle of the II<sup>nd</sup> cent. A.D.

*Bibl.* C. L. BROWNSON, M. L. EARLE, W. J. MC. MURTHY, C. H. YOUNG, *Excavations at the Theatre of Sicyon*, *AJA* V (1889) p. 267-281; VII/VIII (1891/1892) p. 281-282. E. FIECHTER, *Das Theater in Sikyon* (Stuttgart, 1931), reviewed by A. VON GERKAN in *Gnomon* 9 (1933).

**80-81a. DELPHI—THEATRE** (1959). The theatre is situated in the north-west corner of the temenos. The koilon and orchestra are in an excellent state of preservation. The auditorium has a most irregular ground-plan: it is divided by the diazoma into two very unequal parts. The lower zone contains 28 rows of seats, 7 kerkides and 8 stairways; the upper zone comprises only 7 tiers of seats, 6 kerkides and 5 stairways. The orchestra is covered with polygonal limestone slabs; a drain runs all around it. The foundations of the scene rest partially on the so-called upper terrace. In front of the scene, a threefold proscaenium. Date: we now know for certain that the scene was being rebuilt by Eumenes II in 160 B.C. (Ditt., Syl. II, 671 B, 12 p. 247); the original structure dates perhaps from the III<sup>rd</sup> cent. B.C. (according to some authors II<sup>nd</sup> cent. B.C., which dating is far from probable in view of the fact that a restoration took place already in 160).

*Bibl.* So far no publications.

**81b. CHAIRONEIA—THEATRE** (1959). A small theatre was carved out of the rock on the north-

eastern slope of the acropolis. At present only the central part, cut into the living rock, is preserved. Travellers of the XIX<sup>th</sup> century, like W. Leake and H. Ulrichs still saw, on both sides, the masses of earth restrained by the parados-walls. Of the auditorium, which is divided by two diazomata, 17 tiers of rows are left: 2 in the lower, 10 in the middle and 5 in the upper zone. Date: hard to ascertain; two inscriptions date from the end of the III<sup>rd</sup> century B.C. (I.G. VII, 3403/8409).

*Bibl.* There is no plan, nor any modern publication. W. LEAKE, *Travels in Northern Greece II* (London, 1835) p. 112. H. N. ULRICHS, *Reisen und Forschungen in Griechenland*, I (Bremen, 1840) p. 159.

**82a-b. MEGALOPOLIS—THEATRE** (1960). Excavated by the English in the years 1890-1891. The theatre lies on the hill-side of the Helisson Valley and was built in front of the Thersilion (PLATE 82a in the background), the assembly hall of the 10,000 Arcadians. To the west of the orchestra (PLATE 82a, to the left) there was a skenothekē (east end 8.31 m. wide, and 35.30 m. long), from where a movable scene could be rolled between the orchestra and the Thersilion (as in Sparta). The radius of the orchestra is 15.60 m. The auditorium is divided by 10 stairways into 9 sectors. The outermost kerkides are longer. In the building history several periods are to be distinguished (see VON GERKAN): 1) the Thersilion with colonnaded façade and entrance-hall, 2) the koilon with proedria, skenothekē from the middle of the IV<sup>th</sup> cent. B.C. 3) A permanent proscaenium circa 150 B.C. 4) There was finally a Roman rebuilding, of small importance, which cannot be exactly dated.

*Bibl.* E. A. GARDNER, R. W. SCHULTZ, *Excavations at Megalopolis 1890-1892 (Suppl. Papers Soc. Prom. Hellenic Studies, n° 1)* (London, 1892). E. FIECHTER *Das Theater in Megalopolis* (Stuttgart, 1931), review by A. VON GERKAN: *Gnomon* 14, (1938).

**83-85a. MESSENE—THEATRE** (1960). The theatre was excavated and restored by A. Orlandos in the years 1957/1958. It lies immediately east of the agora and the auditorium faces south. It is rectangular in shape and the analemma is built of pseudo-isodomic walls (PLATE 85a, east side). The koilon is divided by the diazoma into two zones: the lower one contains 3 kerkides and 4 stairways, most of the upper one has disappeared. From a street a flight of steps descends



through the eastern parados to the orchestra (PLATE 84a). The western parados gives direct access from the agora. From this parados a flight of steps leads along the analemma to the seventh row. There is also a direct entrance to the diazoma from the street. The orchestra is covered with slabs of coloured marble.

*Bibl.* Pending the excavation reports there are only a few brief reports without a detailed plan or specified measurements. A. 'Ορλάνδου in Τὸ Ἔργον 1957 ('Αθῆναι, 1958) p. 75-80. G. DAUX, *Chronique des fouilles et découvertes*, BCH LXXXII (1958) p. 714; LXXXIII (1959) p. 636.

**85b. DELOS—THEATRE** (Photograph Ecole française d'Athènes). Excavated in 1882, 1892/1893, 1911, by the Ecole française. The theatre, situated in the centre of the island, is built against a hill-side. Nevertheless, the upper part is supported all around by an analemma. The analemma is not truly circular and, moreover, the centres of the analemma and the orchestra do not coincide. The auditorium is divided into two separate parts by a diazoma, 1.50 m. in width: the spectators in the epitheatron were all seated directly opposite the scene. The lower zone comprised a proedria and 26 tiers of seats, divided by 8 stairways into 7 sectors; the upper zone numbered 17 rows, divided by 5 stairways into 6 sectors. The orchestra, with a radius of 10.58 m., was surrounded by a drainage-gutter 0.29 m. wide. The scene was a long rectangular building measuring 15.35 m. by 6.22 m., surrounded by a portico.

Date: the accounts of the hieropes are sufficient indication that most of the building was done at the beginning of the IIIrd cent. B.C. The work was completed in the last third of the IIIrd cent. B.C. There is no reason at all to presume any later reconstructions.

*Bibl.* J. CHAMONARD, *Théâtre de Délos*, BCH XX (1896) p. 256-318. W. DÖRPFELD, *Le théâtre de Délos et la scène du théâtre grec*, BCH XX (1896) p. 563-580. Y. BÉQUIGNON AND J. REPLAT, *Le tracé du théâtre de Délos*, BCH LI (1927) p. 401-422.

**86a. RHODOS—THEATRE** (1960). Only 3 rows of seats and 3 fragments of stairways were found and a few poros blocks of the scene which were so weather-worn that precise measuring was impossible. Nevertheless it was fully reconstructed by the Italians (by reference to Vitruvius and by comparison with other theatres). The auditorium is rectangular, 27 m. wide and 23.67 m. deep. It is divided into two equal parts (each

containing 10 rows of seats) by the diazoma: 5 kerkides and 4 stairways below, 4 kerkides and 5 stairways above. The radius of the orchestra is 7.75 m.

Date: G. Jacopi dates this theatre to the IVth cent. B.C. (this dating is quite hypothetical).

*Bibl.* G. JACOPI, *Il Teatro di Apollo Eremitio. Clara Rhodos II* (1932) p. 112-116. L. LAURENZI, *I Monumenti dell' antica Rodi. Prima relazione sugli scavi e sui restauri. Il Teatro di Monte S. Stefano. Memorie pubblicate a cura dell' Istituto storico-archeologico F.E.R.T. e della R. Deputazione di storia patria per Rodi II* (Rodi, 1938) p. 25-29.

**86b. LINDOS—THEATRE** (1960). This small theatre is cut into the rock on the south-west side of the acropolis. It is badly weather-worn and damaged, yet there is enough left for us to form a fairly precise picture of the auditorium and orchestra. The auditorium comprises 9 sectors and 8 stairways, a diazoma 2.15 m. in width divides it into two zones with 19 rows below and 6 rows above. The second zone starts 1.90 m. above the diazoma. The radius of the orchestra is 4.50 m., and 5.02 m. including the stone edge. The scene has completely disappeared.

Date: IVth cent. B.C. (Based on technical indications on the one hand, on comparisons on the other; it remains rather hypothetical, however).

*Bibl.* E. DYGGVE, *Lindos, Fouilles de l' Acropole 1902-1914 et 1952. III Le sanctuaire d' Athana Lindia et l' architecture lindienne* (Copenhagen, 1960) § X *Le théâtre cultuel de Lindos*, p. 399-415.

**87a-b. DODONA—THEATRE** (Photograph S. Dakaris). The theatre was excavated by the Greeks in 1876 and 1955-59. The koilon was built partly against a massive isodomic analemma, reinforced by buttresses in the shape of towers. It is subdivided by two diazomata. The lowest zone (21 rows) and the middle one (16 rows) number 10 stairways and 9 sectors; the upper zone comprises 19 stairways and 18 sectors. The radius of the orchestra is 9.33 m.; a drainage-gutter runs all around. Double porches, each with 3 Ionic semi-columns, give access to the parodoi. The scene is constructed of isodomic walls, at the back there was a portico with 13 octagonal columns. Date: erected under the rule of Pyrrhus (297-272 B.C.). Towards the end of the IIIrd cent. B.C. a proscaenium with 18 Ionic semi-columns was added to it. In the I st cent. A.D. it was converted into an arena by the Romans.

*Bibl.* C. CARAPANOS, *Dodone et ses ruines*, 2 vol. (Paris, 1878). For the more recent excavations, see: A. K. 'Ορλάνδου, Τὸ Ἔργον 1958 ('Αθήνη, 1959) p. 90-95; *ibid.* 1959 ('Αθήνη, 1960) p. 75-77; 180-182. G. DAUX, *Chronique des fouilles et découvertes, BCH LXXX* (1956) p. 299; LXXXIV (1960) p. 746.

**88a-b, 89a.** SYRACUSE—THEATRE (1961). The theatre, situated beside the Latomia del Paradiso, is in its present state the result of numerous reconstructions.

The auditorium (PLATE 88a), with 59 rows of seats and measuring 138.60 m. in diameter, is divided into two parts by a diazoma (PLATE 88b), 2.25 m. wide. The lower zone is the smaller. Each zone is divided by 8 stairways into 9 sectors. The bottom and top rows of the auditorium are built on a raised incline; the central portion, which is easily the largest, was cut into the living rock. The radius of the orchestra (measured from the proedria) is 12.099 m. The orchestra is surrounded by a drainage-gutter, 0.35 m. wide. The scene-buildings (PLATE 89a), in particular, were rebuilt several times. In the Roman era they were moved forward to such an extent, that both rock-cut parodoi were walled in. They were replaced by two tunnels. The theatre served as an arena and was adapted for naval combats in the IVth century.

Date: built during the reign of Hieron II, c. 230 B.C. (completely covering up all older structures). Roman alterations especially under the Flavii.

*Bibl.* G. E. RIZZO, *Il Teatro Greco di Siracusa* (Milano-Roma, 1923).

**89b.** AKRAI (Palazzolo Acreide)—THEATRE (1961). This small theatre, at present partially reconstructed, is split up into 9 sectors by 8 stairways. The original number of rows is unknown. The diameter of the koilon is 37.50 m., of the semi-circular orchestra 20.90 m. The stylobate of the semi-columns of the Hellenistic proscenium has been preserved. It is a theatre without parodoi. The date is uncertain (first half of the II<sup>nd</sup> cent. B.C.?) In the Roman age a logeion and a pulpitum were added to it.

*Bibl.* L. B. BREA, *Akrai* (Catania, 1956), H. BULLE, *Untersuchungen an griechischen Theatern* (München, 1928) p. 119-203, Taf. 43, 44a-b.

**90a.** PERGAMON—THEATRE (Altertümer von Pergamon, Bd. IV, Taf. III). This theatre, one of the largest of antiquity, was built along the west-

ern hill-side in a natural semi-crater-shaped depression, resting at the base on a monumental structure of three terraces (the longest measuring 246.50 m.). It was excavated from 1883 to 1885 by the German Pergamon expedition.

The koilon has a surface area of 4200 m<sup>2</sup> and it is 37.10 m. high. It has 78 rows, divided by 2 diazomata. Starting with the lowest, the zones number respectively 21, 32 and 25 rows. The lowest zone has 8 stairways and 7 kerkides; starting from the middle zone the stairways (7 with 6 sectors) lie opposite the middle of each lower kerkis; in the upper zone, 5 stairways are a continuation of the lower ones, 2 stairways are built irregularly against the analemma. The uppermost zone comprises 6 sectors, those at the two extremities being smaller than the other 4. In the centre of the lower diazoma there is a so-called royal box. The orchestra is semi-circular and has at present a diameter of 22.91 m., originally c. 21 m. The scene was greatly altered, especially during the Roman Age.

Date: a) The dates of the koilon of trachyte tuff and of a movable scene cannot be exactly ascertained, but according to the excavators they date from before the reign of Eumenes II. b) The stone scene and the entrance-porch date from the end of the Royal epoch. c) During the Roman age two bottom rows were removed, so that the diameter of the orchestra was extended. The proscenium was raised and moved forward.

*Bibl.* R. BOHN, *Die Theater-Terrasse, Altertümer von Pergamon IV, Text & Atlas* (Berlin, 1906) p. 3-17.

**90b.** PRIENE—THEATRE (Priene, Abb. 249). View of the proscenium from the east. The theatre, of which especially the scene is in an excellent state of preservation, was excavated by the Germans in the years 1895/1897. The lower rows of the auditorium are carved out of the rock, the upper ones rest on an artificial slope of which at present practically nothing is left, so that the exact number of rows is unknown (c. 50). The koilon is divided by 6 stairways, into 5 kerkides, at the eastern analemma outer stairs lead to the diazoma.

The largest diameter of the orchestra is 18.65 m. The parodoi consist of two walls of isodomic ashlar masonry, connected with the proscenium by pillars. All the piers of the proscenium are still standing (12 along the front, 2 on the eastern and 1 on the western side). On the façade, 10 piers are ornamented with semi-columns. The eastern part still carries a complete architrave and a triglyph

frieze. The full height of the proscenium is 2.70 m., and the polychrome decorations are still partly visible. The scene comprises 3 rooms, 1 larger central one and 2 smaller side-rooms; it measures 18.41 m. by 5.82 m.

Date: the koilon dates from the IVth cent. B.C.; in the IIIrd cent. B.C. the scene and the proscenium were added to it. Alterations date from the IInd centuries B.C. and A.D.

*Bibl.* TH. WIEGAND AND H. SCHRADER, *Priene, Ergebnisse der Ausgrabungen und Untersuchungen in den Jahren 1895-1898* (Berlin, 1904) *VIII Das Theater*, p. 235-257. A. VON GERKAN, *Das Theater von Priene als Einzelanlage in seiner Bedeutung für das hellenistische Bühnenwesen* (München, 1921).

**91a-b. OLYMPIA—STADIUM** (1959; 91b photograph German arch. inst. Athens, Ol 5102). The stadium lies east of the sanctuaries at the foot of the Kronos Hill. Excavations were undertaken by the Germans in the years 1875-1882, 1937-1941 and 1958-1961. At present, the stadium is to a large extent restored to its original state. The entrance is situated on the west side: a vaulted tunnel, 32.10 m. long, between the Echo Hall and the terrace of the treasures (from the IIIrd or IInd cent. B.C.) (PLATE 91a).

In its architectural history 5 periods can be distinguished:

- 1) the oldest archaic stadium, very unpretending, of which very little trace remains (I)
- 2) The early classical stadium dating from before the middle of the Vth cent. It was still combined with the sacred Altis enclosure in a single composition, there was no west embankment (II)
- 3) The late classical stadium of about 350 B.C., for the greater part still preserved at present. It was moved 82 m. eastward and 7.50 m. to 9.50 m. northward; it was separated from the sanctuary by the construction of the west embankment. At the foot of the southern embankment, as a first permanent structure, a stand was built for the umpires. A gutter encircled the running track (192.25 m. between aphasis and terma) (III) (PLATE 91b).
- 4) About the end of the first cent. A.D. it was restored with tolerable accuracy. The slopes were raised. (IV)
- 5) In mid- and late imperial times several restorations took place to stop further deterioration.

*Bibl.* E. CURTIUS AND F. ADLER, *Olympia, Die Ergebnisse der von dem deutschen Reich veranstalteten Ausgrabungen. II Die Baudenkmäler*. (Berlin, 1892) see R.

BORRMANN, *XII Das Stadion* p. 62-68, *XIII Eingangsthor zum Stadion* p. 68-70. E. KUNZE AND H. SCHLEIF, *II. Olympiabericht* (Berlin, 1938) *Das Stadion*, p. 5-27. E. KUNZE AND H. SCHLEIF, *III. Olympiabericht* (Berlin, 1941) p. 5-29. E. KUNZE, *V. Olympiabericht* (Berlin, 1956) p. 10-34.

**92a-b, 93b. EPIDAUROS—STADIUM** (1960). The stadium lies partly in a natural ravine stretching in a west-south-westerly direction. It was excavated by the Greeks. The sphendone is rectilinear, the running track is 181.50 m. long between the terma on the east side and the aphasis on the west side. It is 23.05 m. wide. On the long north side a vaulted tunnel leads from the sanctuary to the stadium. Opposite this tunnel, the stand for the umpires (8.15 m. by 2.80 m.) Most of the seats, partly of stone, are still preserved. A gutter encircled the running track with rectangular water-basins at regular intervals. (PLATE 93b). Date: started in the Vth cent. B.C.

*Bibl.* Π. Καββαδίας, *Τὸ ἱερόν τοῦ Ἀσκληπείου ἐν Ἐπιδάυρῳ* ('Αθήναι 1900) p. 96-118. Preliminary report with plans: Π. Καββαδίας, *Ἀνασκαφαὶ ἐν Ἐπιδάυρῳ Τὸ Στάδιον, Πρακτικὰ* (1902) p. 78-92.

**93a, c. DELPHI—STADIUM** (1954). This stadium was excavated by the Ecole française in 1896. The length of the running track between aphasis and terma is 177.55 m., the width on the east side 25.25 m., on the west side 25.65 m., and in the middle 28.50 m. (the usual entasis). Grooves, 0.69 m. long and 0.0725 m. wide are carved in the stone threshold of the aphasis (PLATE 93a). The entrance is on the south-east side. At a distance of 6 m. east of the aphasis 4 pillars are still standing which belonged to a monumental portico of the Roman Age. There are seats on three sides. On the fourth, the east side, the rock was only roughly cut. The tiers rest on a crepis, 1.30 m. to 1.35 m. in height. Outer stairways and narrow inner ones give access to 2 ambulatories (0.835 m. wide). On the north side these ambulatories are still connected by 13 stairways, on the curved westside by 5. The north side comprises 12 rows, the two other sides 6. In the middle of the north side (the 7th kerkis from the east) lies the tribune (7 m. by 1.50 m.).

Date: between 448 and 421 B.C., a stadium was erected on this site, constructed of wood and earth; it was rebuilt in stone by Herodes Atticus (IInd cent. A.D.).

*Bibl.* M. HOMOLLE, *Le stade de Delphes*, BCH XXIII (1899) p. 601-615.



**94a. RHODES—STADIUM** (1960). The stadium was excavated by the Italians in 1916 and fully restored in 1938. (Only a few rows of the sphendone are authentic). The sphendone is apsidal in shape and numbers 10 rows, whereas the straight part of the koilon along the running track has only 5 rows. At regular intervals flights of four steps, placed at right angles to the koilon, lead to the seats. The sphendone is divided into kerkides by directly ascending stairways. Date: probably II<sup>nd</sup> cent. B.C.

*Bibl.* There is not a single scientific publication; a few data in A. MAIURI, *La topografia monumentale di Rodi, Clara Rhodos I* (Rhodi, 1928) p. 48-49.

**94b. ATHENS—STADIUM** (1960). Excavated in the years 1869-1870 by E. Ziller and restored in 1896. The stadium lies between two hills on the left bank of the Ilissos. The full length comprises 204.07 m., the full width 33.36 m., the exact length of the original running track cannot be determined with absolute certainty (according to some archeologists: 184.96 m.) The running track was subdivided by metae, hermes (4 of these have been discovered). The koilon itself contains 50 rows, interrupted in the middle by a diazoma, and numbers 29 stairways in all. Above the sphendone there was formerly a Doric stoa. The main entrance, between the stadium and the Ilissos, was also closed off by a portico. In the south-west corner a tunnel, 3.85 m. wide, leads to the running track.

Date: the first stadium was built by Lycurgus circa 330 B.C., but remained unfinished. It was not until 143-144 A.D. that it was finally completed by Herodes Atticus, who also covered it with Pentelic marble. Later it was adapted for wild-beast fights.

*Bibl.* E. ZILLER, *Ausgrabungen am panathenäischen Stadion*, *Zeitschr. für Bauwesen* XX (1870). See also *Archäol. Zeitung* (1869) p. 131, (1870) p. 16 Plan: E. CURTIUS AND J. A. KAUPERT, *Atlas von Athen* (Berlin, 1878) p. 13.

**95a-b, 96a. OLYMPIA—PALESTRA** (1959). PLATE 95a: the north-east corner seen from the east; PLATE 95b: the south side from the east; PLATE 96a: the east side seen from the south. The excavations were started by the Greeks in 1884, and completed in 1939 by the Germans, the anastylosis dates from 1957. The north wall of the Palestra is contiguous to the Gymnasium. The groundplan is square: 66.35 m. by 66.75 m.

There is a square court in the middle (c. 41 m. square), surrounded by 72 Doric columns (32 at present standing). Around it, on the west, north and east sides, there are a series of rooms, some closed and accessible through doors, others opening into the court with 3, 5 or more Ionic columns. The rooms on the east and west sides are 6.75 m. deep, those on the north side 8.35 m. The whole south side is taken up by a portico, 4.37 m. deep, with 15 Ionic columns. The entrance, a tetrastyle porch, projecting 2.29 m. is situated in the north-west corner. The whole building was embellished by polychrome decorations.

Date: end of the III<sup>rd</sup>, beginning of the II<sup>nd</sup> cent. B.C.

*Bibl.* E. CURTIUS AND F. ADLER, *Olympia. Die Ergebnisse der von dem deutschen Reich veranstalteten Ausgrabungen. II Die Baudenkmäler* (Berlin, 1892), see P. GRAEF, *XXI Die Palästra*, p. 113-121. E. KUNZE AND H. SCHLEIF, *IV Olympiabericht* (Berlin, 1944) p. 8-31.

**96b. PERGAMON—GYMNASIUM** (1955). The middle of the upper terrace is taken up by a rectangular space of rammed-down earth (c. 36 m. by 72 m.), surrounded on the north, west and east sides by a peristyle hall, behind which lie the halls and rooms of the gymnasium. On the north side (PLATE 96b: in the foreground to the left) an Odeion (a Roman alteration of 2 Hellenistic halls), next to it a festive hall and the so-called imperial hall. On the east side a series of smaller halls and a gateway erected during the Roman Age (II<sup>nd</sup> cent. A.D.) which leads to the Thermae behind it. On the west side two smaller halls, one of which contained baths.

Date: end of the II<sup>nd</sup> cent. B.C.; afterwards, in imperial times, thoroughly altered.

*Bibl.* P. SCHIAZMANN, *Das Gymnasium, der Tempelbezirk der Hera Basileia. Altertümer von Pergamon VI* (Berlin, 1923) p. 43-69, plan Taf. IV and V.

**97a. ERETRIA—GYMNASIUM** (1960). Excavated by the Americans in 1895, but the work was discontinued too soon. Only the northern half of the structure is relatively well preserved. Room B (PLATE 97 a) together with the following rooms C and D formed the bathing-establishment. Of the original 7 wash-basins 4 are still preserved in situ. These are each carved out of a poros block (1.385 m. long, 0.78 m wide, 0.95 m high, useful depth 0.35 m.; they were stuccoed. In the middle of each basin there is an outlet and they

were connected by small U-shaped channels. The basins are indicated by the letters A, B. . . Date: a precise dating will only be possible after an exhaustive excavation of the site. R. RICHARDSON maintains that sufficient indication has been found already for a dating to the 1st cent. B.C. According to J. DELORME not later than the II<sup>nd</sup> cent. B.C. There are traces of Roman alterations.

*Bibl.* R. B. RICHARDSON, *The Gymnasium at Eretria*, *AJA* 11 (1896) p. 152-165. J. DELORME, *Gymnasion* (Paris, 1960) p. 161-164.

**97b. OLYMPIA—BATH AT THE KLADEOS** (Photograph German arch. Inst. Athens). The structure was excavated by the Germans in the years 1940-1941. The so-called older hip-baths consist of 2 parts: the older structure which was a simple rectangular hall, 21.32 m. by 5.33 m. and the hip-baths built at a later date against its southern wall, 5.94 m. by 9.34 m. From the rectangular hall a door opened on to the hip-baths. Along the northern wall 6 tubs, sloping with a gradient of 8 cm. towards the round tank provided for drawing water. The inner dimensions of the tubs: 1.23 m. by 0.54 m. to 0.62 m. (PLATE 97b) In the north-east corner, a water-basin with a wooden cover (content: 0.80 m<sup>3</sup>); cold water was supplied through an open duct. Along the eastern wall there were 5 tubs and at the southern end a semi-circular water-basin, possibly for warm water; a larger water-basin (2.25 m<sup>3</sup>) in the south-west corner was probably for cold baths. Date: the older hip-baths: V<sup>th</sup> cent. B.C.

*Bibl.* H. SCHLEIF AND R. EILMANN, *Die Badeanlage am Kladeos, IV. Olympiabericht* (Berlin, 1944) p. 32-104, especially p. 33-37.

**98a-b. GORTYS (Arcadia)—BATHS** (Photographs Ecole française d'Athènes). Excavated by the Ecole française in the years 1951-1955. The whole structure is rectangular in shape: 17.70 m. on the north and south sides, 16.54 m. on the east and west sides, with on the east side a projecting porch. PLATE 98a. A general view from the south-east: on the extreme right in the foreground the entrance (A), a rectangular space of 4.85 m. by 3.20 m.; on the left in the foreground the vestibule (B), a large rectangular hall with hypocaustum (6.29 m. by 3.91 m.) and a semi-circular apse on the north side; it served as a changing-room. From this vestibule a door (0.75 m. wide) leads into the large rotunda (C) in the middle. This circular hall (diameter: 6 m.), the actual centre of the building, with two apses on the east and west sides (with fountains) and a rectangular recess on the north side, was well heated and was part of the baths proper. In the upper right hand corner the hall G (PLATE 98b). In the left hand corner a tank (X)

PLATE 98b. The circular bathing hall (diameter: 2.24 m.) with 9 recesses, 8 of them adjoining one another. Each recess contains a wash-basin, a seat and a little niche in the wall. The height under the vault is 1.20 m., the width at the rear from 0.74 m. to 0.80 m.

Date: the first structure dates from the IV<sup>th</sup> cent. B.C.; in the III<sup>rd</sup> cent. B.C. much was rebuilt; in the 1st cent. A.D. the building probably fell into disuse. There are traces of Roman constructions from the IV<sup>th</sup> cent. A.D.

*Bibl.* R. GINOUVÈS, *L'établissement thermal de Gortys d'Arcadie (Etudes péloponnésienes II)* (Paris, 1959).

## B. HOTELS AND DWELLING-HOUSES.

**99a. OLYMPIA—LEONIDAEUM** (1958). Excavated by the German archeological institute, the northern part between 1875 and 1881, the southern part from 1954 to 1956. This hotel for guests of honour was erected by Leonidas, son of Leotes of Naxos. The building, which is not quite square in shape (80.18 m. by 74.00 m.), is surrounded by an Ionic portico (37 columns on each side and 34 on each façade). The square inner court (29.67 m.), contains water-basins and symmetrically laid out gardens, is surrounded by 4 times 12 Doric columns. The interior comprises

numerous rooms of greatly varying dimensions. Date: latter half of the IV<sup>th</sup> cent. B.C. During the Roman age, alterations took place twice.

*Bibl.* E. CURTIUS AND F. ADLER, *Olympia. Die Ergebnisse der von dem deutschen Reich veranstalteten Ausgrabungen, II Die Baudenkmäler* (Berlin, 1892), see R. BORRMANN, *XVIII Das Leonidaion*, p. 83-93 E. KUNZE, *VI. Olympiabericht* (Berlin 1958) p. 4-5.

**99b. EPIDAUROS—KATAGOGION** (1960) The excavations were carried out by the Greeks, beginning in 1894. It is a square building (76 m.)

subdivided into four square compartments. Each compartment contains a central inner court with a Doric portico (4 times 10 columns) surrounded by 20 rooms, and another 20 on the upper-floor. Thus the building contains 160 rooms. There were entrances to each part; inside there were connecting passages.

DATE: IVth Century B.C.

*Bibl.* Π. Καββαδίας, Τὸ ἱερόν τοῦ Ἀσκληπείου ἐν Ἐπιδαύρῳ (Ἀθήναι, 1900) p. 162-165.

**100a-b. ATHENS — DWELLING HOUSES (1960).**

On the hills in the western part of the city, Areopagus, Mouseion, Pnyx, Nymphaeion, traces of hundreds of rock-cut dwellings are still to be seen. They belonged to the densely populated boroughs of Koile and Melite. There are remains of terraces, fragments of walls, stairways, recesses, holes for beams, conduits, cellars and cisterns everywhere. The dwellings were partly hewn out of the solid rock, the walls were built of the stones thus obtained and filled up with clay and timber. **PLATE 100a.** Rock-cut dwelling on the Mouseion Hill near the monument of Philopappos. On the left a recess of 0.68 m. by 0.52 m., separated from the room by a wall 0.20 m. thick. The broad excavation contained two rooms: the one on the left contained, in the lower part, two stone seats (0.29 m. high, 0.39 and 0.33 m. wide) and at the back a platform: 0.70 m. high and 0.38 m. wide, along the whole length. This room was separated from the next compartment by a wall of 0.29 m. The room on the right is 1.33 m. by 1.68 m. and 1.72 m. high. Together, the two rooms have an overall length of 3.02 m.

**PLATE 100b.** Evidence of foundations on the eastern slope of the Pnyx: three rooms on the right, in the background on the left a fourth room. The first room (in front) is 3.88 m. long, the partition wall measures 2.07 m. (width 0.44 m.). The second room is 4.53 m. long, the partition wall in the background measures 2.72 m. In the third room a threshold of 1.04 m. is still preserved. These rooms are part of a larger building, which stretches further to the left (stairs and rooms, i.a.) and is bounded by a conduit.

Date: formerly these dwellings were considered the most ancient remains in Athens (a.o. see CURTIUS). They date, however, from the city's flourishing days. In the Roman period most of these areas were already outside the city-walls.

*Bibl.* E. CURTIUS, *Erläuternder Text der 7 Karten zur Topographie von Athen* (Gotha, 1868) p. 14-16; W.

JUDEICH, *Topographie von Athen* (München, 1931) p. 389.

**101a. DELOS — HOUSE OF THE MASKS (1955).**

This was excavated by the Ecole française d'Athènes in 1930 and it is one of the largest houses ever found in Delos. It is especially important for its extremely well preserved and interesting mosaic floors. The entrance is situated on the eastern side; through a long (17.35 m.) hall, access is gained to an almost square inner court (northern side 13.78 m.), with a Rhodian peristyle with 12 columns. The most important rooms, in which also the mosaics were found, are grouped around the western, northern, (**PLATE 101a** View of the northern side) and eastern sides of the peristyle: the hall of the Centaurs (room e, 7.20 m. by 5.10 m.), the room of the masks or the oecus (room g, 7.20 m. by 9.30 m.), the room of Silenus (room h, 3.40 m. by 4.25 m.), the room of the Amphora (room i, 7.18 m. by 5.80 m.). South of the peristyle a large open cistern was cut into the rock (11.30 m. by 12.80 m. and reaching a depth of 5.80 m.). In the opinion of J. CHAMONARD the building was probably used as actors' quarters.

Date: II<sup>nd</sup> cent. B.C.

*Bibl.* J. CHAMONARD, *Fouilles à Délos (juillet-septembre 1930)*, BCH 57 (1933) p. 98-169.

**101b-c. DELOS — CLEOPATRA'S HOUSE (1955).**

Excavated by the Ecole française d'Athènes. This is the most important house in the III<sup>rd</sup> insula of the theatre district. Its lay-out is rather confused owing to later alterations. The inner court (**PLATE 101b and c**) has a peristyle of modest dimensions (5.90 m. by 4.30 m.) with 10 Doric columns. A small altar stands against one of the columns (**PLATE 101c**). The oecus lies south of the peristyle. The house is especially important because the statues of the owners, Cleopatra and Dioskourides, have been discovered in the north-west corner of the inner court. The statues, for which no space was provided in the original plan of the house, were erected during the archonship of Timarchos in 138/137 B.C., probably during the later alteration of the peristyle.

*Bibl.* J. CHAMONARD, *Le Quartier du Théâtre (Expl. arch. de Délos VIII, 1)* (Paris, 1922) p. 39-41.

**102a-b. DELOS — HOUSE OF THE DOLPHINS (1955).**

Excavated in 1883 by the Ecole française d'Athènes some hundred metres to the east of the theatre



in one of the wealthiest districts of Delos. The entrance (PLATE 102a view of the hall from the inside) gives access to a small square with a portico made of granite columns. The house is an insula on its own (28 m. by 17 m.) and, although it stands consequently completely detached, its outline is not regular. The compartments are spacious, the division is logical, the ground-plan is simple. The inner court is rectangular (13.50 m. by 10.90 m.); the peristyle is square and surrounded by 12 Doric columns; the four porches differ in depth (the northern one is widest: 4.57 m.). Almost the whole ground-floor is occupied by the reception-rooms. The oecus *b* is one of the largest in Delos: 10.15 m. by 6.80 m.; it opened on to the inner court through three doors. The private apartments were on the first floor. The mosaic with the dolphins in the impluvium is signed by Asklepiades from Arados.

Date: II<sup>nd</sup> cent. B.C.

*Bibl.* J. CHAMONARD, *Le Quartier du Théâtre (Expl. Arch. de Délos V<sup>III</sup>, 2)* (Paris, 1924) p. 404-410.

**102c. DELOS — HOUSE IV B (1955).** Excavated by the Ecole française d'Athènes in the theatre district, insula IV. It is an example of a modest dwelling with a small, utilitarian rather than ornamental, peristyle. Both inner court and peristyle are irregular. The peristyle (northern side 3.90 m.; southern side 3.40 m.; eastern side 4.15 m.; western side 4.35 m.) has four Doric columns, the shafts of which are not fluted. Three of the porches are very narrow; the fourth, on the east side, is wider (2.04 m.), extending to the north as far as the outer wall and thus forming a long gallery. The house had a storey with a stairway in the south-west corner.

*Bibl.* See 101b, p. 154-155.

**103a. DELOS — DIONYSUS' HOUSE (1955).** Excavated by the Ecole française d'Athènes in the theatre district, insula VI, house 1. The groundplan, at first sight normal, is, however, irregular; the peristyle is awkwardly situated in the inner court. Dimensions of the inner court: eastern side 14.10 m.; western side 13.85 m.; northern side 10.15 m.; southern side 9.05 m. Moreover, the peristyle is very narrow, about 1/4 of the width of the impluvium, and this is accentuated by the very tall white marble Doric columns, the height (5.60 m.) of which is about nine times the diameter. Like most houses in Delos, this one has

inner walls 0.60 m. and outer walls 0.70 m. thick. The corners of the outer walls especially are carefully constructed. Again there are no windows on the outside. The height of the storey was 6.63 m. (so it was not supported by the columns of the peristyle). The house derives its name from the mosaic in the impluvium, which depicts Dionysus riding a panther and dates from the III<sup>rd</sup> century B.C.

*Bibl.* J. CHAMONARD, *Les fouilles de Délos, BCH 30* (1906) p. 483-606, see p. 486-562.

**103b-c. DELOS — HOUSE OF THE TRIDENT (1955).** Excavated in the theatre district, insula II, house A, by the Ecole française d'Athènes in 1894. It is one of the wealthiest and most harmonious houses in Delos, in spite of the uneven site which the architect had at his disposal. The door of the main hall lies in the axis of the inner court (11.60 m. by 10.20 m.), the impluvium of which (5.60 m. by 5.80 m.) is surrounded by 12 Doric columns. The porch is one of the Rhodian type, of which the side facing south (in this case, facing west) is higher. In the two corner columns of the eastern porch, consoles are embedded between the drums (one with a lion protomen, the other with a bull protomen). These supported the architraves of the lower northern and southern porches. The eastern porch is also wider (3 m.) continuing right across the entire width of the house and ending in a small exedra. Behind this porch, lies the spacious oecus (K) (8.60 m. by 5.65 m.), which opens into the inner court through three doors. There is a monumental well, between the columns of the southern porch (2 pillars with a moulded lintel) (PLATE 103b).

*Bibl.* see 101b, p. 27-29 and 102a, p. 139-152. L. COUVE, *Fouilles à Délos (juillet-septembre 1894)*, *BCH 19* (1895) p. 460-516, see p. 497-505.

**104a-b. DELOS — HOUSE OF THE INOPOS (1958).** Excavated by the Ecole française d'Athènes in 1895 and 1908 at the northern extremity of the reservoir of the Inopos. This house too shows some typical characteristics: it has a modest peristyle with two porches; the layout is well defined and numbers a great many spacious rooms. The inner court measures 8.75 m. by 10.95 m. Because of the smaller dimensions of the inner court, the porch was built only along the northern (3 columns) and eastern sides (2 columns, the corner column counted twice). In this way the

architect obtained sufficient space for the impluvium and for the porches (3.30 m. wide). The Doric columns are made of white marble and have no fluting (height 4.31 m.). The rooms are distinctly divided into two series: the service rooms which do not look out on the inner court, and the oeci which do. Four rooms open on to the two porches. Two of these are large (8.10 m. by 5.55 m. and 8.70 by 5.45 m.) with wide doors (2.05 and 2 m.) and windows; these two rooms are connected by a square room.

*Bibl.* see 102a, p. 432-435.

**105a-b. KAMIROS — DWELLING HOUSES (1960).** View of the residential quarters of the town, seen from the west (PLATE 105a) and detail of a Hellenistic house with an inner court and peristyle (PLATE 105b). Not a single excavation report has been published, nor a plan of the area, although the town is important for the study of town planning and house construction in the Hellenistic period.

*Bibl.* See 71a-b.

### C. VARIOUS CONSTRUCTIONS

**106a. GLYPHADA — TOMB (1960).** This sepulchral structure lay along the ancient highway between Aixone and Alimous. It was removed on account of the extension of the airfield. It is built of ashlar blocks, in pseudo-isodomic courses of diminishing height from bottom to top. The façade is 19.50 m. long, the width is 8.40 m., the height 3.20 m.

Dated by W. Wrede, on account of its monumental proportions, to the third quarter of the IVth cent. B.C.

*Bibl.* W. WREDE, *Attische Mauern* (Athen, 1933) p. 23-24.

**106b. RHODOS — TOMB (1960).** This monumental grave, lying just outside the town, is known by the name "Ptolemaic tomb". It is completely carved out of the solid rock, decorated on the outside with semi-columns on four sides. Inside it contains several mortuary chambers.

*Bibl.* Apart from a photo in *Clara Rhodos I* (1928) p. 55, this rock-cut tomb is still awaiting publication.

**107a-b. ATHENS — KERAMEIKOS AND DIPYLON (1960).** From 1863 to 1890 Greek excavations, and from 1907 onwards German ones, which have been continued, with interruptions, until today. PLATE 107a. General view of the whole site, from the Dipylon Gate on the southern side towards the north-west; in the lower left corner a fragment of the stairway of the Pompeion, on the left in the background the road with the sepulchral monuments, on the right at the top the H. Triada Church and, in between, the Eridanos and the Sacred Way.

PLATE 107b. Southern side of the road with the

sepulchral monuments. A retaining wall was constructed along the slope, on which rest five large family graves (4 to be seen in PLATE 107a).

a) In the corner the tomb of Lysanias of Thorikos: a base forming a quarter of a circle, with the stele of his wife Melita next to it, and the equestrian relief for Dexileos (slain in 394 B.C.) on top. b) The grave-monument of the Brothers Agathon and Sosikrates, in the middle a taller marble stele with palmetto, on either side two reliefs and at the corners marble lecythi (about 350 B.C.) c) Sepulchral monument to Dionysius of Kollytos, the shaft supporting a bull and a naiskos (second half of IVth cent. B.C.). d) The monument of Lysimachides of Acharne, the dog Molossos (second half IVth cent. B.C.).

*Bibl.* is very extensive. For the period up to 1930 see W. JUDEICH, *Topographie von Athen* (München, 1931) p. 400-403. Final reports have been issued since 1939: *Kerameikos, Ergebnisse der Ausgrabungen I* (Berlin, 1939) I/I (Berlin, 1959).

**108a. DELOS — CISTERN OF THE THEATRE (1958).** Excavated by the Ecole française d'Athènes, west of the theatre. The cistern ran parallel to the scene, and served to collect the water from the theatre. The inner dimensions are: eastern side 22.96 m.; western side 22.35 m.; southern side 6.62 m.; northern side 6.50 m. At intervals of 3.93 m., 8 granite buttresses project from both the longer sides. On these rest 8 granite arches. This was then covered by the flooring. This technically perfect construction is exceptional for a Greek cistern, it was probably an imitation of examples from Syria or Asia Minor.

Date: the cistern was completed in the IIIrd cent. B.C.

*Bibl.* R. VALLOIS, *L'architecture hellénique et hellénistique à Délos jusqu'à l'éviction des Déliens, I Les monuments* (Paris, 1944) p. 265-268.

**108b. DELOS** — KRENE MINOE (1958). This cistern or fountain was constructed with its south-west corner against the northern wall of the porch of Antigonus. It consists of two parts: an enclosure (10.70 m. by 11.60 m. and 10.55 m. by 11.52 m.) with a colonnade on the southern façade; the actual rectangular cistern, 8.60 m. by 6.20 m., the northern wall of which forms at once

the wall of enclosure (right side of PLATE). The cistern consists of a well at the northern side (4 m. by 3.75 m., and 4 m. deep), fed by underground water; south of this a stairway (5.75 m. wide) with 11 steps. A marble cylinder with a diameter of 0.42 m., standing on the third step from the bottom (left side of the PLATE) served as a base for a column which bore the ceiling. Date: end of the Vth or IVth cent. B.C. (dating based on an inscription).

*Bibl.* F. COURBY, *Le portique d'Antigone ou du nord-est et les constructions voisines (Expl. arch. de Délos V)* (Paris, 1912) p. 103-119.



### III. MILITARY ARCHITECTURE

**109a. PEIRAEUS — THE AKTE FORTIFICATION** (1961). View of the southern portion of the wall which runs around the Akte peninsula. The wall follows the coastal line at a distance of 20 to 45 m., at the precipitous eastern side even a bit closer. Rectangular towers, 6 meters wide, projected 4 to 6 m. from it at more or less regular intervals. The eastern side numbers fewer towers.

The construction technique of the wall is homogeneous, though revealing three types: *A.* a foundation of two facing walls of hammer-faced ashlar masonry in hard lime-stone from the Peiraeus; the height varying from 2 to 6 courses (each course c. 0.45 m. high) near the towers. The wall has a packing of earth and broken stone. Originally this base supported a superstructure of mud brick, which was later replaced by the stone superstructure that was partly preserved till today; *B.* isodomic ashlar masonry with tooled face and drafted edges, made of softer yellowish lime-stone from the Peiraeus, or *C.* the same type with bevelled joints.

Date: The foundation with the clay superstructure (*A.*) is the so-called "Koonon Wall" (395 B.C.). There is no unanimity about the date of the superstructure: in the opinion of SCRANTON, *B.* dates from 339 B.C., *C.* from 307 B.C. According to MAIER, however, it is quite impossible to determine the date of the superstructure with any certainty. (See both these authors also for a discussion of older literature).

*Bibl.* W. JUDEICH, *Topographie von Athen* (München, 1931) p. 144-154. W. WREDE, *Attische Mauern* (Athen, 1933) p. 29. R. L. SCRANTON, *Greek Walls* (Cambridge, Mass., 1941) p. 114-120. F. G. MAIER, *Griechische Mauerbauinschriften I* (Heidelberg, 1959) p. 15-84, especially p. 17-21.

**109b. SOUNION — FORTIFICATIONS.** (1961) The acropolis has been partly excavated by Staïs from 1897 onwards. PLATE 109b: the fourth tower from the temple terrace. The wall closes off the outermost southern point of Cape Sounion and thus constitutes a fortified acropolis of about 350 m. by 220 m. Two ensembles may be distinguished in the ruins to-day:

A. The actual town wall: strengthened by 10 towers

rather irregularly spaced (spaces vary between 14 and 40 m.). The method of construction of the wall is not the same everywhere: the outer face of the eastern side, facing the country, is made of poros ashlar with tooled faces and bevelled joints, in isodomic courses. The core of the wall is partitioned by cross-walls and probably filled with earth and stone packing. (Up to the big corner tower, No. 7, soundings are necessary to confirm this and at the same time to define exactly the finish of the interior surface of the wall facing the town). Between towers 7 and 8 the core of the wall consists of flat stones stacked without mortar, constituting at the same time the town side of the wall. From tower 8 onwards the whole northern wall is constructed with two facing walls of dry rubble with a packing of smaller rubble. Towers 1 to 6 (inclusive) consist of irregular trapezoidal walls with stackwork filling the gaping joints. Towers 7 and 8 correspond exactly to the method of construction of the eastern wall, towers 9 and 10 to that of the northern wall. B. Later, a bastion with rounded corners was added between towers 2 and 3. At the same time a new stretch of wall, reinforced by three towers, was built in front of the western extremity of the town wall in order to strengthen the entrance. All these added reinforcements are practically completely built of marble, in isodomic or irregular ashlar masonry.

Date: About the date opinions differ considerably. This question cannot be finally settled without further exploratory excavations. The first wall (*A.*) dates from 412 (Thuc. VIII, 4), but probably with later repairs; the added reinforcements (*B.*) date back to the IIIrd cent. B.C.

*Bibl.* B. Στάη, *Τὸ Σούνιον* ('Αθήναι, 1920). W. WREDE, *Attische Mauern* (Athen, 1933) passim. R. L. SCRANTON, *Greek Walls* (Cambridge, Mass., 1941) passim. F. G. MAIER, *Griechische Mauerbauinschriften I* (Heidelberg, 1959) p. 115-117.

**110a-b. RHAMNOUS — FORTIFICATIONS** (1959). Have not been excavated yet; view of main gateway (PLATE 110a) and eastern wall (PLATE 110b). The town wall, about 800 m. long, still has 10 towers, which are in fact, up to the remain-

ing height, enlargements of the thickness of the wall. The gateway is solidly reinforced. The width of the wall varies between 2.25 and 2.75 m. The structure and masonry of the wall are not uniform, on account of different periods of construction, repairs and corrections. Some portions are isodomic trapezoidal, others irregular trapezoidal, other parts are still of dry rubble. Date: The oldest parts date back to the Vth cent. B.C. (maybe even to the VIth cent. B.C.), the greater part including the sectors pictured here, was constructed in 412 B.C. Many questions still remain unsolved because no excavations have been carried out.

*Bibl.* J. POUILLOUX, *La forteresse de Rhamnonte* (Paris, 1954).

**111a. ELEUSIS — PERIBOLOS** (1960). View of the south-west wall and the round corner tower (VI), the foundations of which were uncovered in 1921. A base of blue Eleusinian limestone ashlar blocks with pointed face in isodomic courses, without regular alternation of headers and stretchers. On top of this, yellowish poros ashlar blocks in isodomic courses, alternating headers and stretchers, with tooled face. Finally, on the top, late-antique masonry. The tower is 5.45 m. high, and in the tenth course (now the top) the diameter is 9.70 m.

Date: IVth cent. B.C. A more precise dating is not possible.

*Bibl.* F. NOACK, *Eleusis, die baugeschichtliche Entwicklung des Heiligtums* (Berlin, 1927) p. 202-217. R. L. SCRANTON, *Greek Walls* (Cambridge, Mass., 1941) p. 123-128.

**111b. ASINE — FORTIFICATIONS** (1960). Excavated by the Swedes during the years 1922-1926. View of the north-east side of the acropolis wall. The tower juts out 7 m. on the southern side, 5.50 m. on the northern side; its base is 10.30 m. wide, the remaining height 9.50 m. The walls are built of coursed polygonal masonry, 14 courses in all. The rectangular base of the tower consists of 2 courses, which extend a bit further than the remainder, the corners of the superstructure are cut away.

Date: according to the excavators, Hellenistic period; in the opinion of R. L. Scranton, from the IVth cent. B.C.

*Bibl.* O. FRÖDIN & A. W. PERSSON, *Asine, Results of the Swedish Excavations 1922-1930* (Stockholm 1938) p. 25-32. R. L. SCRANTON, *Greek walls* (Cambridge, Mass., 1941) p. 67-68.

**112a-b. ANO LIOSIA — TO ΔΕΜΑ** (1960). In the north-west of Attica the broad saddle between the Aigaleos (453 m.) and the Parnes (here 800 m. high) — which forms the connection between the plains of Thria and Athens — is closed off on the watershed by a westward facing rampart, the dema, 4360 m. long. The rampart starts on the northern slope of the Aigaleos at a height of 241 m., and descends to 148 m., rises again on a low mount of 220 m., in the middle of the saddle, descends again from it to rise finally on the southern slope of the Parnes to 340 m. The southern part—2950 m.—as far as the foot of the Parnes, is most accurately executed and best preserved (PLATE 112a); the northern part—1410 m.—is of poor construction and badly preserved (max. height 1 m.). The southern part consists of separate walls overlapping from south to north so as to leave a narrow sallyport between the end of one wall and the beginning of the next (PLATE 112b). On the slopes these separate walls are 45 m. to 105 m. long, 1.50 m. to 1.80 m. wide; in the plain 24 m. to 37 m. long and 2.70 m. to 2.80 m. wide. The remaining height varies from 1.50 m. to 2 m. Construction and masonry are not uniform: mainly dry rubble, but also Lesbian polygonal, coursed polygonal, regular polygonal with at times a tendency towards irregular trapezoidal.

Date: The wall is not mentioned in any text or inscription; thorough archeological exploration (see *bibl.*) has made it possible to date it about 337-336 B.C.

*Bibl.* J. E. JONES & L. H. SACKETT & C. W. ELIOT, *TO ΔΕΜΑ: A Survey of the Aigaleos-Parnes Wall*, *BSA* 52 (1957) p. 152-189.

**113a. VARNAVA — TOWER** (1959). Watchtower along the ancient highway from Rhamnous to Oropos. The tower is square (length of the sides c. 6.60 m.), the northern side is completely destroyed. The thickness of the walls varies between 0.60 m. and 0.85 m.; the entrance at the southern side is 1.60 m. wide and 2.50 m. high. The maximum height preserved is 5.75 m., consisting of 12 courses of 0.35 m. to 0.72 m. The tower is built in trapezoidal pseudo-isodomic style with hammer-faced limestone blocks, drafted edges. Date: no data whatsoever, stylistic dating of the walls is unreliable.

*Bibl.* W. WREDE, *Attische Mauern* (Athen, 1933) p. 32.

**113b. MAZI — TOWER** (1960). Tower along the road from Eleusis to Thebes, between Oinoi and

Eleutherai. The length of the west wall is 8.90 m., the average thickness of the walls 0.65 m., the original height c. 16 m. The tower comprised a groundfloor and four storeys, the beam cuttings being still visible. It consisted of a limestone base and a breccia superstructure of isodomic ashlar work (only stretchers) with tooled faces, bevelled joints and drafted edges. Perhaps two periods of construction may be distinguished: A. the base with a superstructure of sun-dried bricks, B. conglomerate blocks replacing the mud bricks. Date: period B dates back to the IVth cent. B.C. (hypothetical dating).

*Bibl.* W. WREDE, *Attische Mauern* (Athen, 1933) p. 24-25.

**114a. PHYLE—BARRIER-FORT** (1960). The fortifications along the old road from Athens to Thebes, via Chassia and the plateau of Skourta, were thoroughly examined and partly excavated in 1923/1924 by W. Wrede. The fortification is built on a small rocky plateau (683 m. high), measuring 100 m. in east-west direction, 30 to 35 m. in north-south direction. The south-west and west flanks, where the rocks rise sheer, were not fortified. On the northern side tower I juts out 1.60 m. on both flanks for a length of 5.50 m.; to the west of it the wall stretches for a further 17.85 m.; to the east the wall—2.75 m. wide for a length of 37.40 m.—has been completely preserved to the level of the wall walk (14 courses; from 6 to 8 m. high), as far as the round corner tower II (about 6.50 m. in diameter). The east flank, containing the main gateway (2.50 m. wide), is 26 m. long. The following tower, III, is 5.50 m. long, juts out 3.45 m. on the north side, 1.15 m. on the south side. The southern wall is 46.45 m. long and ends in a massive tower, IV, 3.90 m. wide and 6 m. long. Next to the last tower there is a narrow sallyport, 1.60 m. in width. The foundations of the walls and towers are extremely carefully laid in the rocks and are built of hammer-faced limestone ashlar masonry, in isodomic courses and with drafted edges.

Date: at the beginning of the IVth cent. B.C. (W. Wrede).

*Bibl.* W. WREDE, *Phyle, Ath. Mitt. XLIX* (1924) p. 153-224.

**114b-115a-b. ELEUTHERAI—BARRIER-FORT** (1960). The Attic frontier-fortress of Eleutherai, identified by several authors with Panakton (at present Gyphtokastro), stands along the road

Eleusis-Thebes on a small, steep, rectangular eminence, dominating the southern approach to the pass of Dryos Kephalai, about 100 m. above the plain of Mazi. The fortification is one of the finest and best preserved specimens of Greek military architecture. The fort, more or less rectangular in shape, measures about 270 m. in east-west direction, some 100 m. in north-south direction, but narrowing towards the eastern and western extremities. The northern wall is in the best state of preservation. It defended the most vulnerable flank and was most solidly reinforced, numbering 6 towers (PLATE 114b: view of the inner face, in the foreground tower IV, behind it towers III, II, and I). Tower I (PLATE 115a) formed the north-east corner, the entrance is 0.98 m. wide. Between towers I and II there is a sallyport, 1.30 wide; tower II also has an entrance of 0.98 m., with beside it a stairway leading to the wall walk; between towers II and III another sallyport, 1.26 m. wide; tower III with an entrance 1.01 m. wide; tower IV with an entrance 0.90 m. wide and beside it a stairway to the wall walk; tower V without access but with a stairway to the wall walk (PLATE 115b: view of the west side); tower VI has neither an entrance nor a stairway. All towers project from both faces of the wall (e.g. tower I juts out 2.65 m. on the outside 1.10 m. on the inside), the wall walk passes through all the towers on the north side. The towers are from 12 to 14 courses high on the side facing the country, from 8 to 10 m. on the inner face and every alternate course is introduced into the wall. The main gateways are on the eastern and southern sides. The western, southern and eastern walls are less fortified, they run along the precipitous rock-face, and their ground-plan, with re-entrants and salients, afforded in itself sufficient flank-defence. The fortress is built of grey limestone blocks with rough bossing, tooled or broached face. The masonry is irregular trapezoidal, isodomic trapezoidal and sometimes isodomic ashlar. Date: literary, epigraphical, as well as archeological (stratigraphical) data are lacking; stylistic dating of the walls is uncertain.

*Bibl.* W. WREDE, *Attische Mauern* (Athen, 1933) p. 32-33. J. G. FRAZER, *Pausanias's Description of Greece, vol II* (London, 1913) p. 515-518; *vol. V*. (London, 1913) p. 537-538 (not quite exact).

**116a-c. AIGOSTHENA—FORTIFICATIONS** (1960). The fortifications are twofold: those of the lower city (only the north side of which has been



preserved) and those of the acropolis, 200 m. by 110 m. (of these the east side is in the best state of preservation: PLATE 116a to the left, and 116c). The east wall is reinforced by 4 towers, 2 of which are corner towers. The southern corner tower has been best preserved (PLATE 116b): it overtops the wall walk by 11.50 m.; the narrow entrance, 3 m., above the wall walk, could probably only be reached by means of a ladder; the tower is filled up to the first storey. The 2 middle towers, on the contrary, are hollow down to the ground-floor: the upper room is on a level with the wall walk, the lower one was reached by a ladder from the upper one. The fortification was built of regular isodomic ashlar work, quarry-faced with drafted edges. There are remains of an older, irregular trapezoidal wall.

Date: only hypothetical. According to R. L. SCRANTON there are two periods: resp. Vth and IVth cent. B.C.

*Bibl.* E. F. BENSON, *Aegostheni*, *JHS* XI (1895) p. 314-324. R. L. SCRANTON, *Greek Walls* (Cambridge, Mass., 1941) p. 81.

**117a-b. PLATAEA — FORTIFICATIONS** (1960). Partly examined by the Americans at the end of the XIXth century. The fortifications stretch over a great distance — the highest level is at 420 m. and the site descends towards the north to 70 m. — and the state of preservation varies. The thickness of the walls measures 3.30 m; they consist of two facing walls with a filling of packed earth (emplekton). 35 Towers have been identified with certainty, several of these being round (diameter 10 m.). The entrances are generally in a poor state, some six of them have been localised. In the fortified area there are two diateichismata, but they cannot be traced for their entire length: one in the north-west corner; one in the south, which is in a good state of preservation (PLATE 117a-b). The wall runs east-west and in the western portion it is, at regular intervals, (c. 42 m.) reinforced by 8 towers (6.70 m. by 5.00 m.). introduced into the wall. Altogether four kinds of masonry may be distinguished: *A.* dry rubble, showing a tendency towards a polygonal shape; *B.* isodomic quarry-faced ashlar work; *C.* isodomic broached trapezoidal masonry; *D.* hammer-faced ashlar masonry with drafted joints.

Date: it is hard to estimate the age of the various parts with any certainty. According to SCRANTON, *A* dates from before the IVth cent. B. C., *B* from circa 385 B.C. and *C* from circa 338 B.C. while *D* represents late repairs.

*Bibl.* H. S. WASHINGTON, *Discoveries at Plataia, III Description of the Site and Walls of Plataia, AJA* VI (1890) p. 452-462. E. KIRSTEN in *PW* (1950). L. R. SCRANTON, *Greek Walls* (Cambridge, Mass., 1941) p. 113. There is no detailed topographic plan.

**118a-b. TITHOREIA—FORTIFICATIONS** (1960). The most important remains of the antique fortifications are partly integrated in the modern village. Some towers have been preserved up to the first storey. The absence of sallyports is a characteristic feature of the fortifications of Phokis. The ramparts are built of large, thick (from 0.60 to 0.90 m. thick) ashlar and trapezoidal blocks with isodomic courses and drafted edges.

Date: about 338 B.C.

*Bibl.* L. B. TILLARD, *Fortifications of Phokis, BSA* XVII (1910-1911) p. 54-75. An exhaustive study, as well as a topographic plan are still lacking.

**119a-b. and 121a. NEW PLEURON—FORTIFICATIONS** (1960). The city, built on a site already naturally very difficult of access, is encircled by ramparts about two kilometres long. The state of preservation varies from no more than 1 course in some parts to a maximum of 15 courses in others. The whole fortress was built at the one time. The system is relatively simple: a wall with 32 towers, the acropolis specially fortified with a diateichisma (with 4 towers), 8 or 9 gates and 1 sallyport in tower 3 (west side). The main entrance was on the south-west side. There is a concentration of towers especially at those points where the natural obstacles are slightest: the north side of the acropolis, connected by a saddle with Mt. Arakynthos, and the whole eastern wall (13 towers as against 8 on the west side). Not a single tower was provided on the whole northern half of the west wall (PLATE 119a). At some places the wall follows a slope, so excessively steep that the wall walk descends by steps. The two faces are pseudo-isodomic trapezoidal with a filling of packed earth (emplekton). They are not divided into compartments (PLATE 121a: southern wall). The thickness, being adapted to the respective positions, varies between 1.90 and 2.60 m. (acropolis). The same is true of the towers (variations from 2.70 by 2.00 m. to 3.75 by 6.80 m.). These towers are, with every other layer, built into the wall itself. The stairways give either direct access to the towers, or first to the wall walk, and from there to the tower. It is difficult to ascertain whether there were any storeys. Date: circa 230 B.C. (Strabo X, 451).

*Bibl.* no excavations. An older description with some detailed plans in W. J. WOODHOUSE, *Aetolia* (Oxford, 1897) p. 115-118. A full description with a plan of the city in *PH* 41 (1951) by E. KIRSTEN.

**120a-b and 121b. PARAVOLA—FORTIFICATIONS** (1960) The city walls are almost completely preserved, mostly to a height of 1 to 3 courses, but some stretches practically entirely. On the north-eastern hill-top lies an oval acropolis about 100 m. in length. The approach to it is on the west side between two semi-circular towers which are in an excellent state of preservation (PLATE 120a: the portion facing the country, viewed from the east; PLATE 120b: on the inside). Three ramparts start from this tower: a) to the left the south-eastern wall of the acropolis, b) to the right the north-eastern wall of the acropolis, c) in the middle, descending eastward, the city wall. The tower, about 9 m. high, has two approaches: one, by means of a stairway, from the city and one from the citadel. Inside, the tower is filled up on a level with the citadel. There was 1 storey or platform and in the round part it had three windows. Its position and construction indicate that the tower was intended to be a post of observation rather than a defensive bulwark. PLATE 121b: the northern city wall, descending westward from the acropolis (at the top: an entrance with a flanking tower). The outer walls are more solidly built than the inner ones. In all, four types of walls may be distinguished: a) regular polygonal, b) irregular trapezoidal, showing a tendency towards irregular ashlar, c) isodomic trapezoidal, d) pseudo-isodomic trapezoidal.

Date: for the time being, dating is practically impossible: no excavations have been undertaken, we have no texts (even the identification with Boukation is hypothetical), and there are hardly any inscriptions. A stylistic dating of the walls is unreliable.

*Bibl.* No modern publications. W. J. WOODHOUSE, *Aetolia*, (Oxford, 1897) p. 190-196.

**121c, 122a-b. STRATOS—FORTIFICATIONS** (1960) This important fortification of hexagonal shape comprises, besides the large city wall, a fortified acropolis and a diateichisma which converted the eastern part of the site into a kind of fortified camp. The walls, built of limestone from local quarries, are pseudo-isodomic trapezoidal, from 2.90 m. to 3.10 m. wide, the diateichisma is 2.60 m. in width. The towers project only on the country side (c. 3 m.) with a frontage averaging 6 m. They are not

always built into the wall. There are numerous gates and little sallyports; as many as 9, perhaps 11, of these may be identified on the south side alone. PLATE 122a, the main gate on the south side is fortified by two walls, jutting forward rectangularly from the city wall; they each end in a tower 5 m. wide (in the PLATE: fore-court on the left; top left hand: one of the projecting walls; in the middle on the right: the city wall). Thus a walled-in fore-court is formed, about 16 m. deep. Directly east of this complex there is another little sallyport, also flanked by a tower.

PLATE 122b, a sallyport with a pseudo-vault outside, on the bank of the Achelous. The gate is 1.60 m. wide (width of the vault, being the total of the two blocks: 2.48 m.) and is strengthened by a massive bastion—divided by inner walls into six compartments—measuring 12 m. by 8.60 m. The walls are made of roughly bossed, trapezoidal blocks, in pseudo-isodomic courses.

Date: the city was fortified in 429 (Thuc. II, 81), but the technique of construction does not allow a dating as far back as the Vth century. L. R. SCRANTON dates it to 314 B.C. (through synecism).

*Bibl.* L. HEUZEY, *Le mont Olympe et l'Acarmanie* (Paris, 1860) p. 331-336. F. COURBY & CH. PICARD, *Recherches archéologiques à Stratos d'Acarmanie* (Paris, 1924) p. 89-96. L. R. SCRANTON, *Greek Walls* (Cambridge, Mass., 1941) p. 94-96.

**123-124-125. MESSENE. FORTIFICATIONS** (1960). These city walls, built on the southern slopes of Mt. Ithome and stretching over a distance of nine kilometres, form one of the most extensive and important Greek fortifications. About fifty per cent—mainly the north and north-west sides—has remained almost intact; yet, here too, an exhaustive study and a topographical plan are lacking. PLATE 123a-b, 124a: tower in the west wall. (PLATE 123a: The southern aspect, PLATE 123b: the eastern aspect). The side facing the country is semi-circular, the side facing the town is straight; there are entrances, reached from the wall walk. The tower has been preserved with its battlements, and the beam cuttings of the upper storey are also visible (PLATE 124a).

PLATE 124b. The Arcadian gate (north side, i.e., the side facing the country). The entrance is flanked by two square towers; behind it lies a large round inner court (diameter: 18.90 m.), surrounded by high walls. Opposite the first entrance, in the south wall, is the second entrance (with a large monolith for a lintel: 5.73 m. long,

1.16 m. wide, 1.12 m. high). The construction of the gateway is well-finished: a base of regular tooled blocks: first a course of large blocks, on top of it a course of small ones; above the base, broached ashlar masonry.

PLATE 125a. Square tower (c. 6 m.), east of the Arcadian gate. Inside view of one of the four archers' slots of the groundfloor room (approached from the wall walk). The upper room has 6 small windows.

PLATE 125b. Wall, east of the Arcadian gate (view from the tower in PLATE 125a). It consists of two faces, headers and stretchers, and a filling of packed earth.

PLATE 125c. The inner surface of the west wall, facing the city. Construction technique: ashlar headers and stretchers, often fitting together by means of cuts, rough bossing, in isodomic courses with drafted edges.

Date: 369 B.C. L. R. SCRANTON considers the Arcadian gate to be a repair dating from after 300 B.C.

*Bibl.* J. G. FRAZER, *Pausanias's Description of Greece*, vol. III (London, 1913) p. 429-431. L. R. SCRANTON, *Greek Walls* (Cambridge, Mass., 1941) p. 112-113, 128.

**126a-b.** SELINUNTE—FORTIFICATIONS (1961). Views of the north-west side of the acropolis—PLATE 126a: the entrance; PLATE 126b: tower. The total length of the walls around the acropolis is about 1260 m., the width varies from 2.40 m. to 2.70 m. There are three periods of construction: the first fortification was destroyed by Hannibal in 409 B.C. In that year the ramparts were repaired by Hermocrates with all speed, practically everywhere following the former plan. This fortification is characterized by the small number of towers (only 5) and gates (4), by a lack of sufficient cover on the flanks and by isodomic walls in ashlar work. From 397 to 392 B.C. Dionysos had the old fortress renovated after the model of the Euryalos, adapting it to the modern methods of siege. Especially in the northern sector, joining the Plain of Manuzza, an extensive fortification system was laid out: bastions from which missiles could be thrown; deep ditches to prevent undermining; a system of communicating subterranean roads, linked up with sallyports. The whole

northern fortification is constructed in the shape of a letter T, with semi-circular towers (PLATE 126b), for the missiles, at the three extremities. The diameter of the northern tower is 20 m. Construction technique: isodomic ashlar work, headers and stretchers with drafted edges.

*Bibl.* J. HULOT & G. FOUGÈRES, *Sélinunte* (Paris, 1910) p. 166-190.

**127-128.** SYRACUSE—EURYALOS (1961). The Euryalos is one of the most complete and complex military constructions in the Greek world. The fortifications dominated the hill of Epipolae which was of vital importance for the defence of Syracuse and formed a connection between the northern and southern ramparts that encircled Epipolae. The fortifications consist of three distinct parts: 1) the outer fortifications, comprising three rock-cut ditches, interconnected by a system of subterranean passages (PLATE 127b: third ditch, with in the background the pillars of the draw-bridge); in between the second and third ditches stands a little fortress. (PLATE 128a: view of the third ditch from the tunnel leading to the fortress). 2) The main fortress, consisting of an inner court with on the west side, five massive square towers (PLATE 127a), a forward position on the south-west side (beside the draw-bridge), and a large enclosure on the east side. 3) The main Epipolae gate (PLATE 128b), giving access to Epipolae and Syracuse. This gate is actually a large complex of walls with a narrowing funnel-shaped passage. Right opposite the entrance run two cross walls (PLATE 128b in the foreground). A small fort on the north flank is connected with the third ditch by means of a subterranean passage.

The fortifications are built in isodomic ashlar masonry.

Date: at present it is taken for granted that the Euryalos was not all built at the one time, but in at least three stages: first and foremost by Dionysos II between 402 and 397 B.C., and later during the reigns of Agathocles (317-289 B.C.), and Hieron II (275-216 B.C.). Alterations probably took place up to the Byzantine period.

*Bibl.* L. MAUCERI, *Il Castello Eurialo nella Storia e nell'Arte* (Syracusa, sec. ed. 1939).





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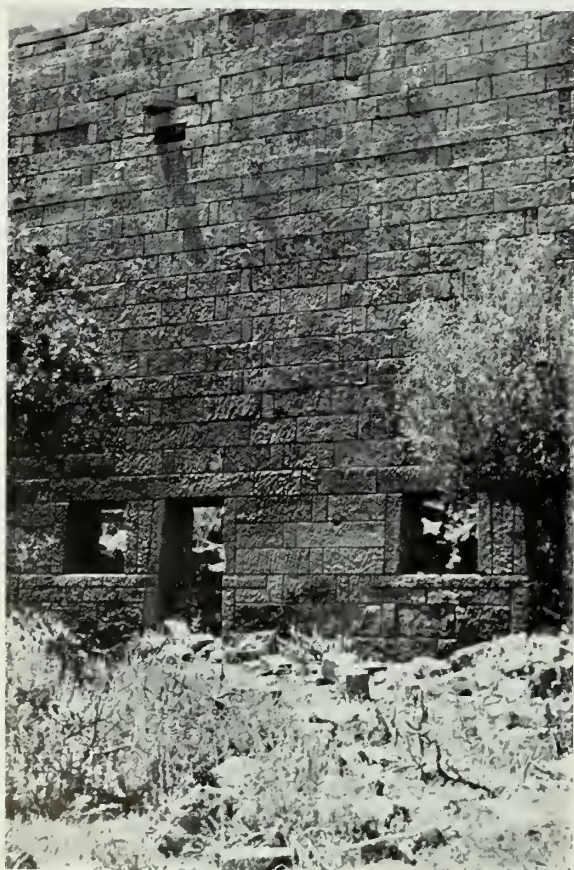


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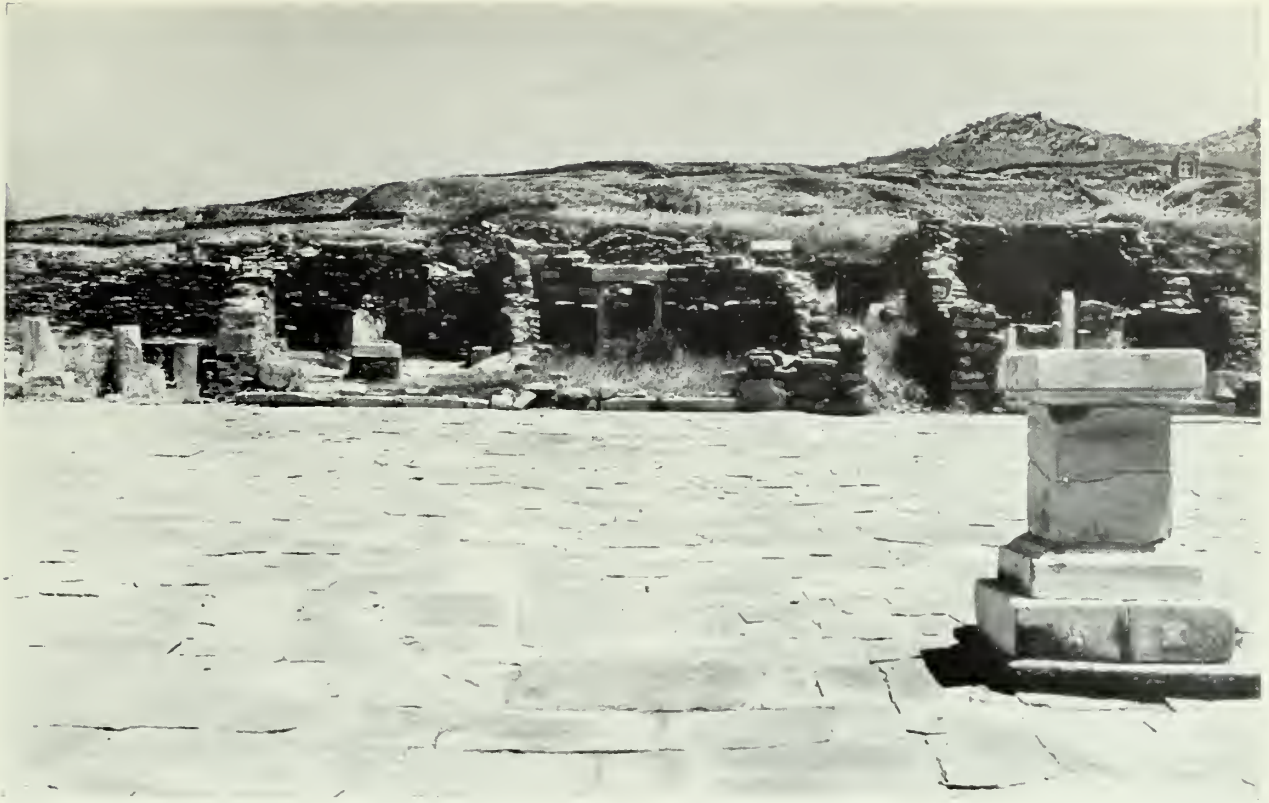


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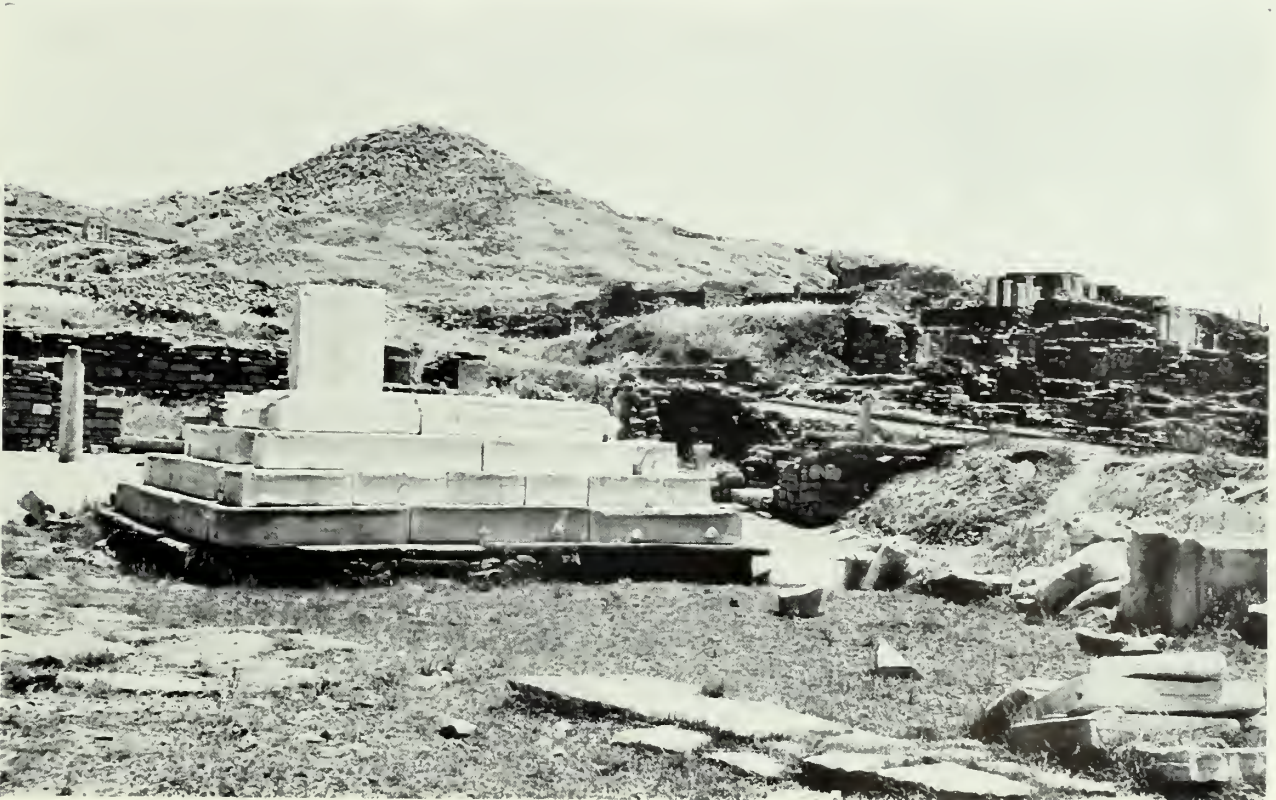


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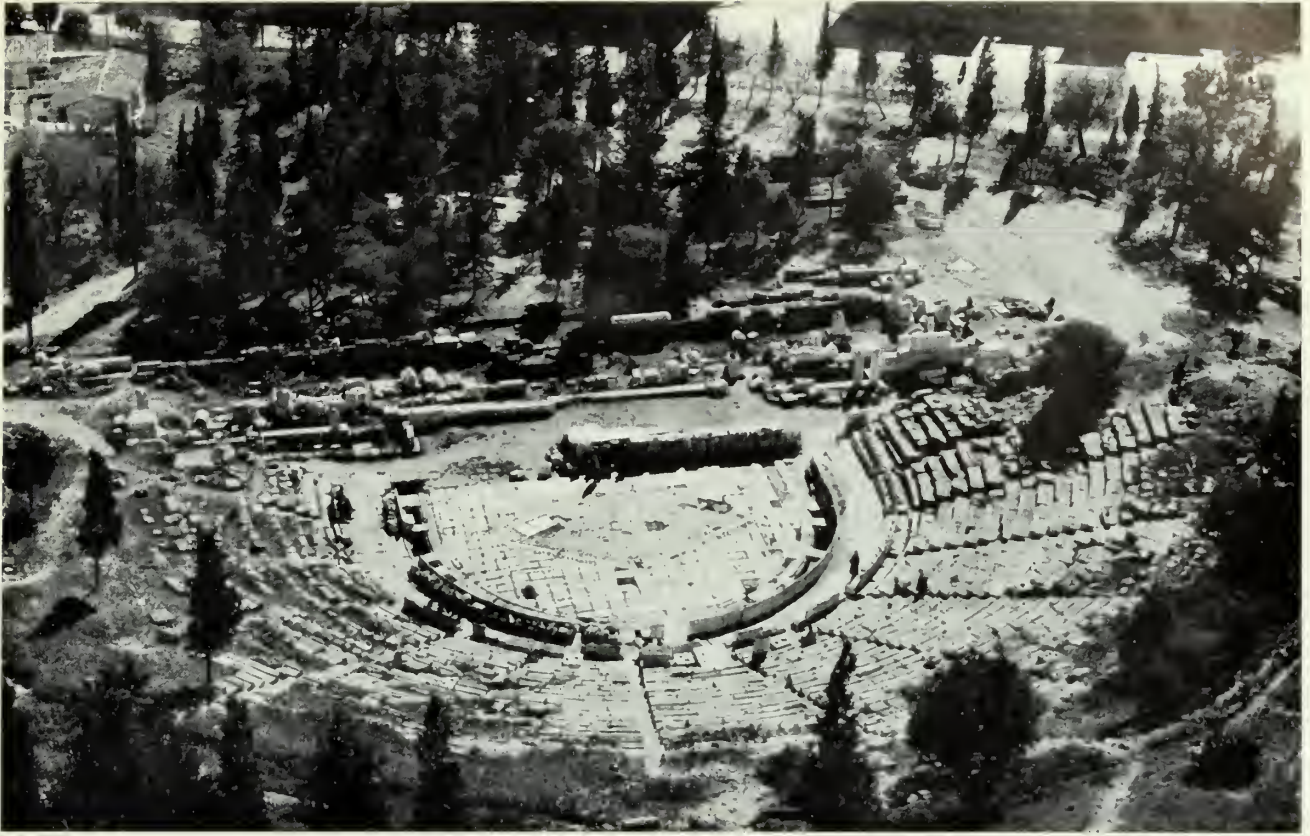


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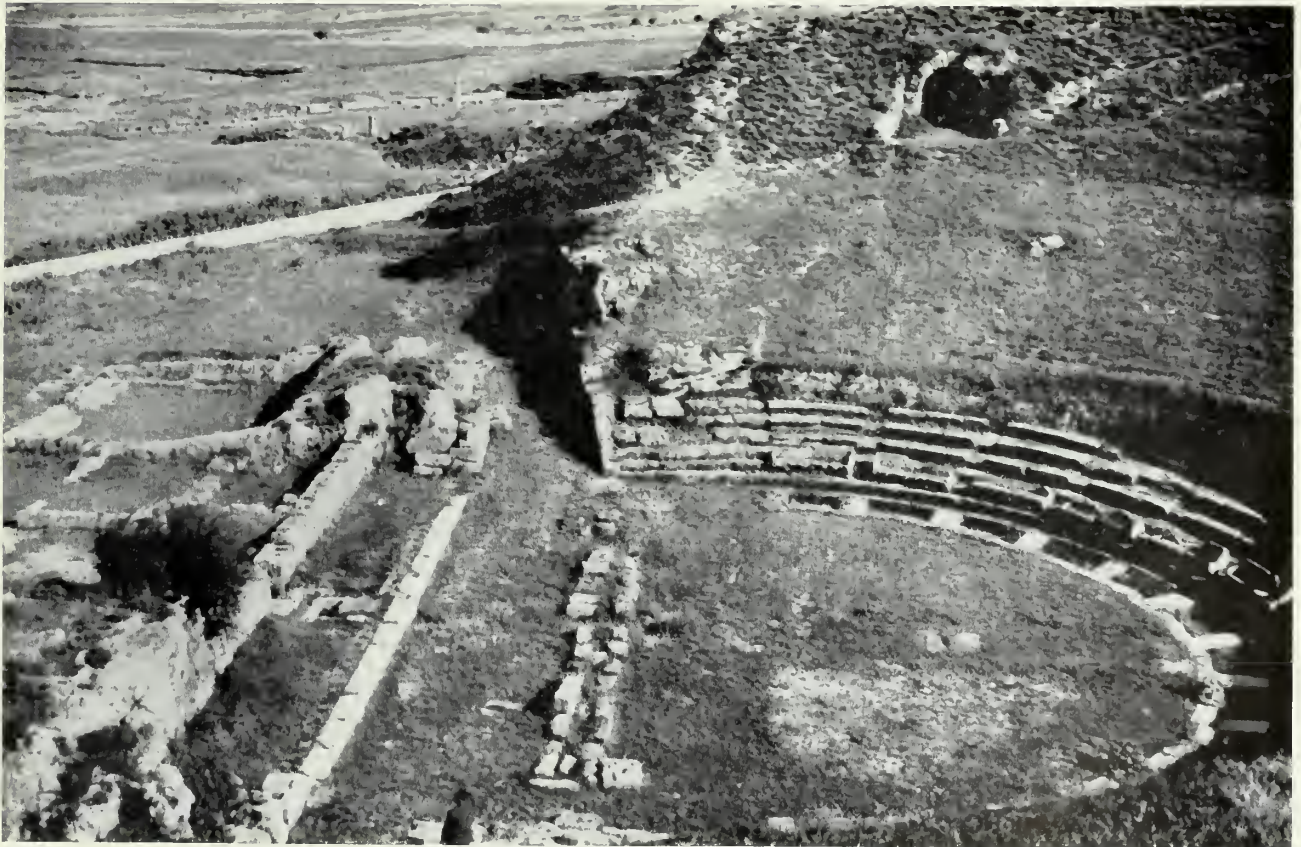


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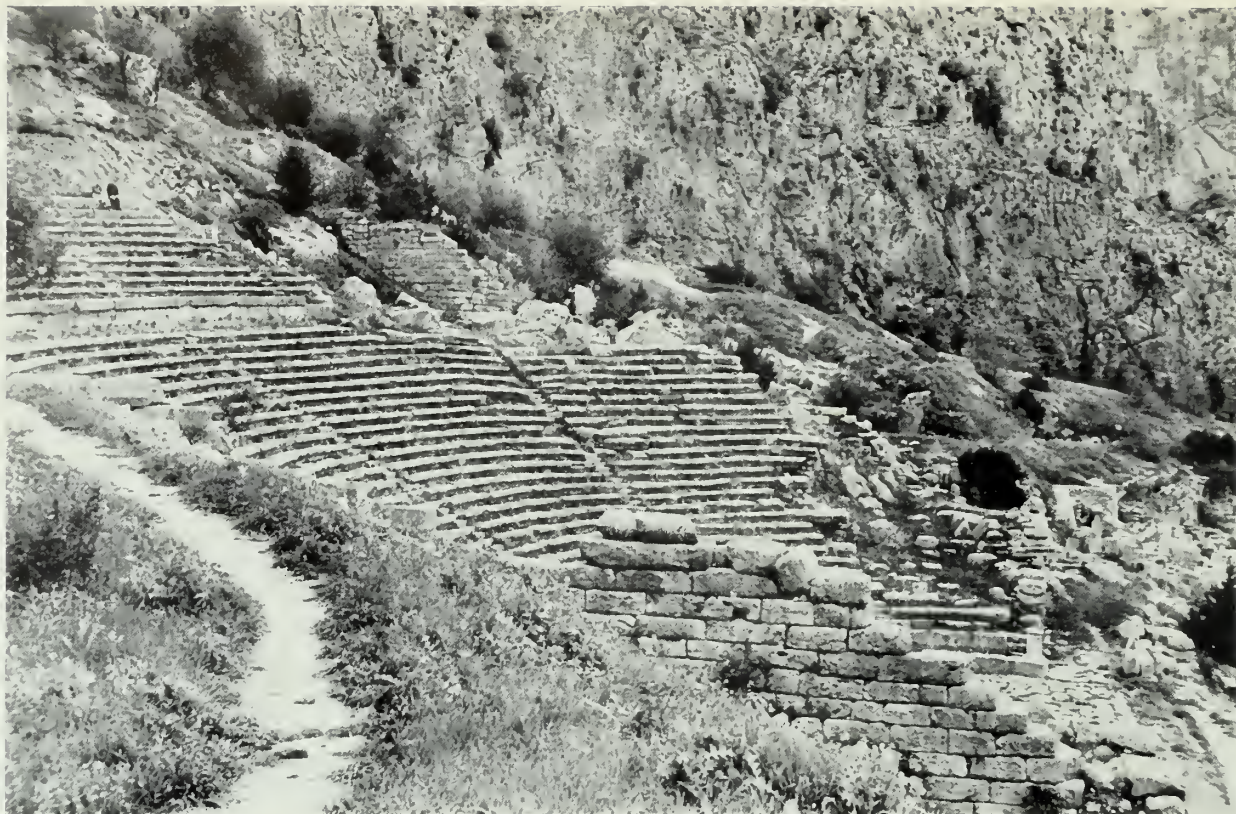


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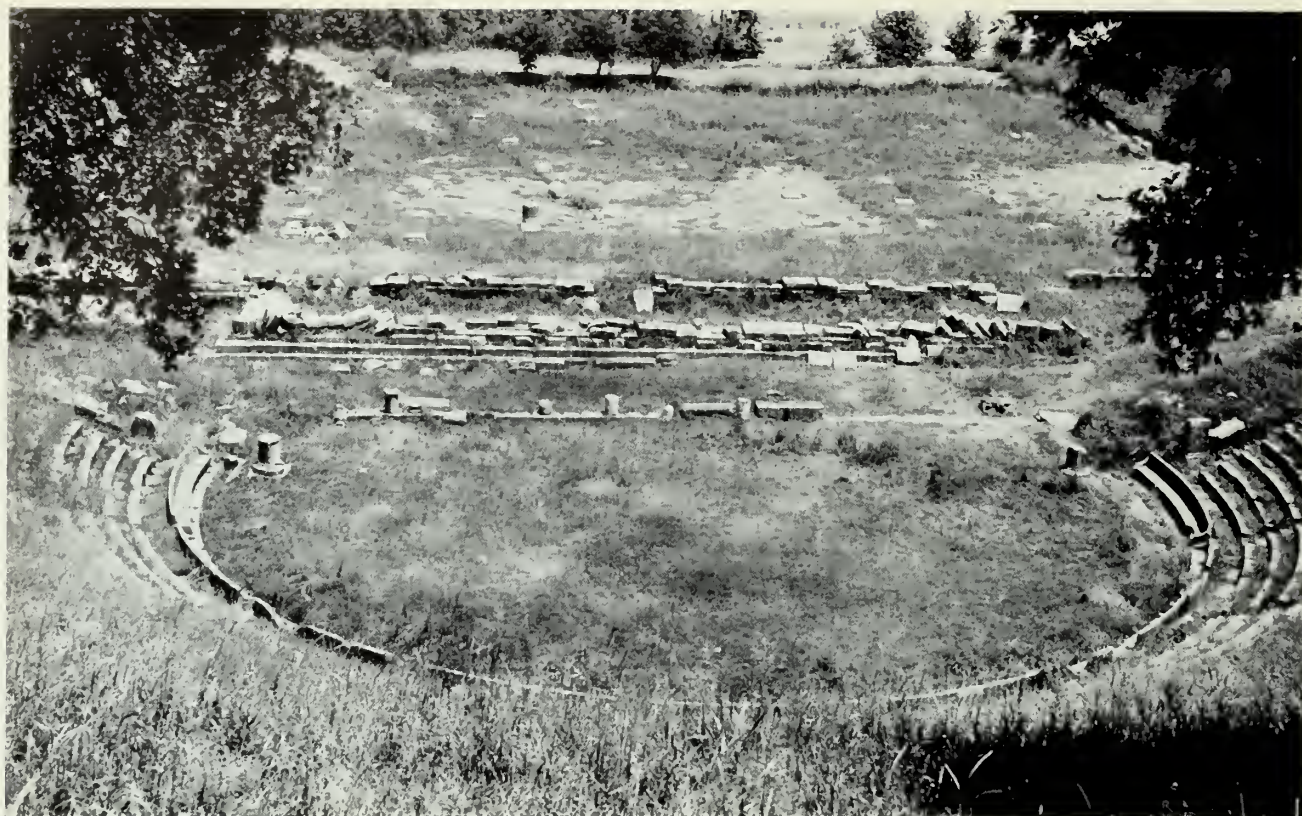


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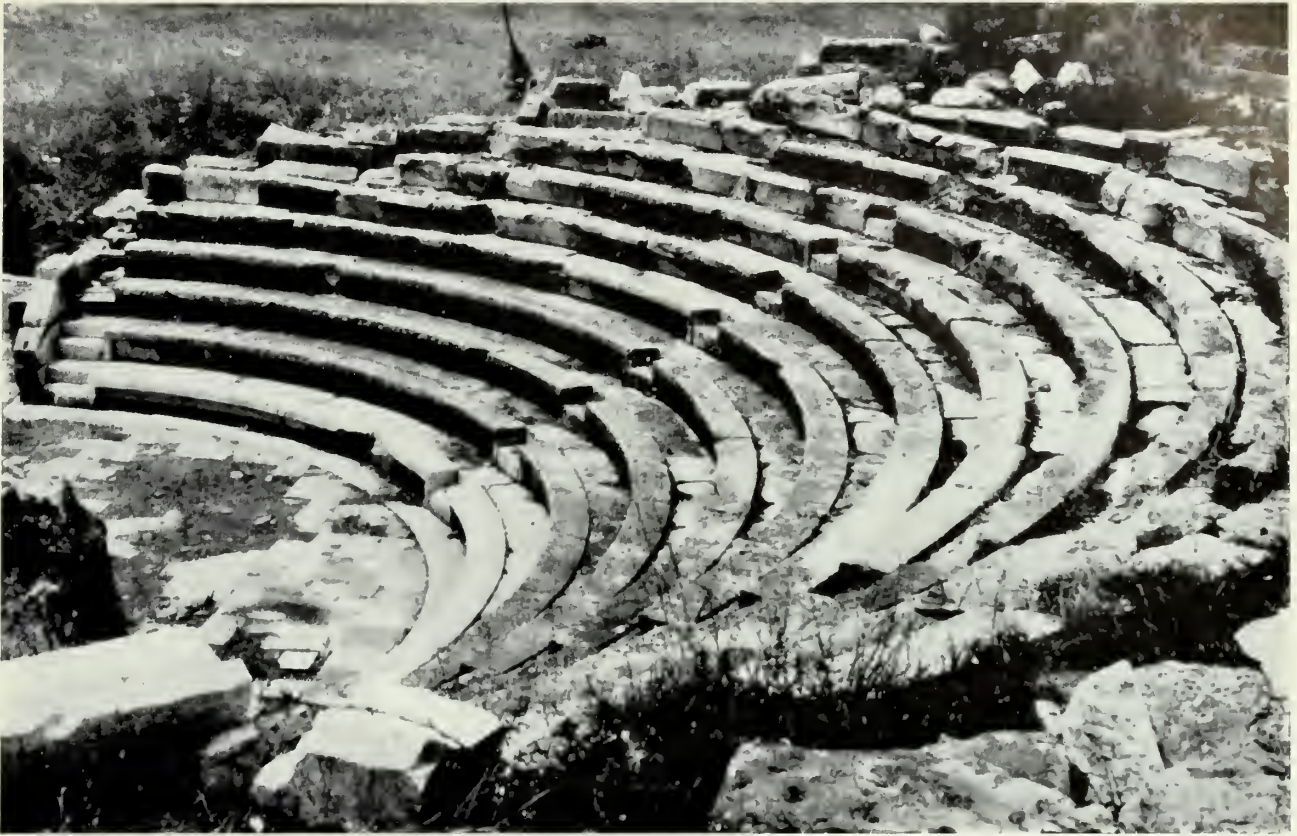


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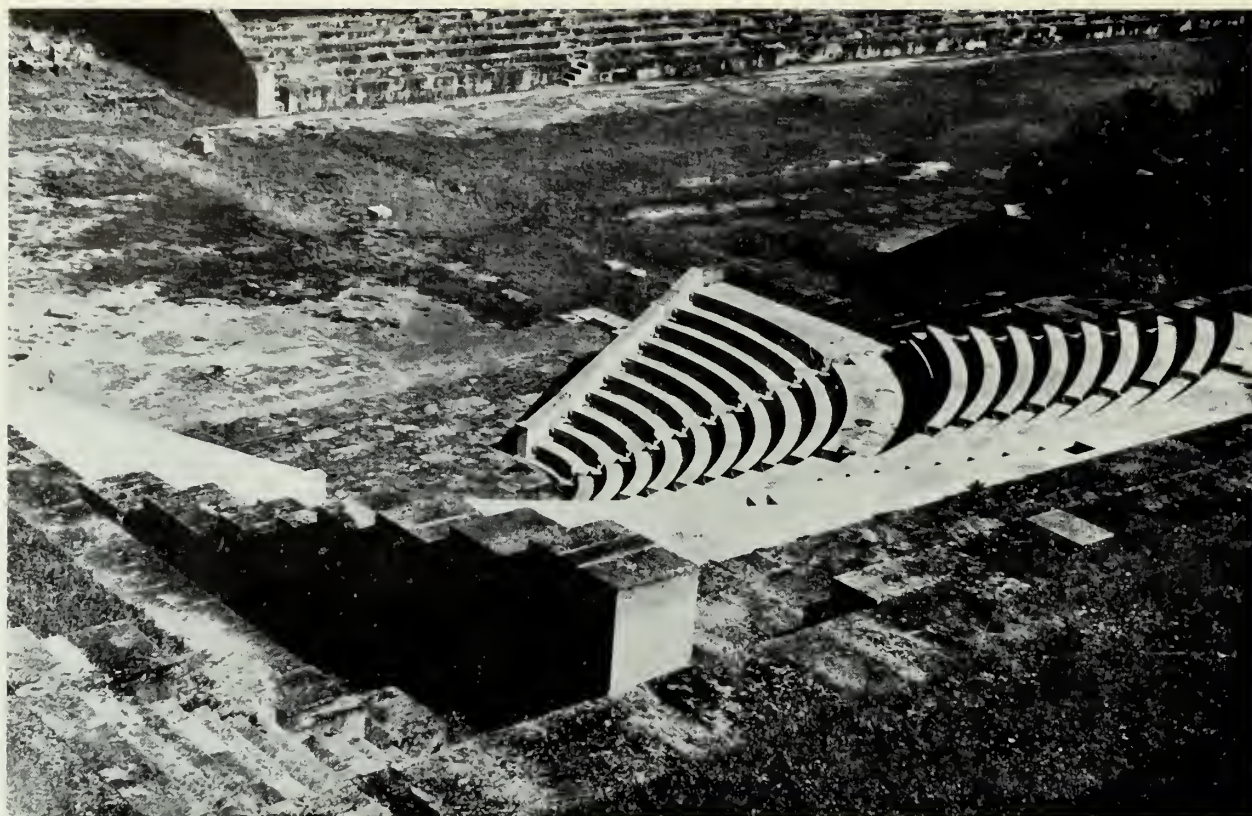


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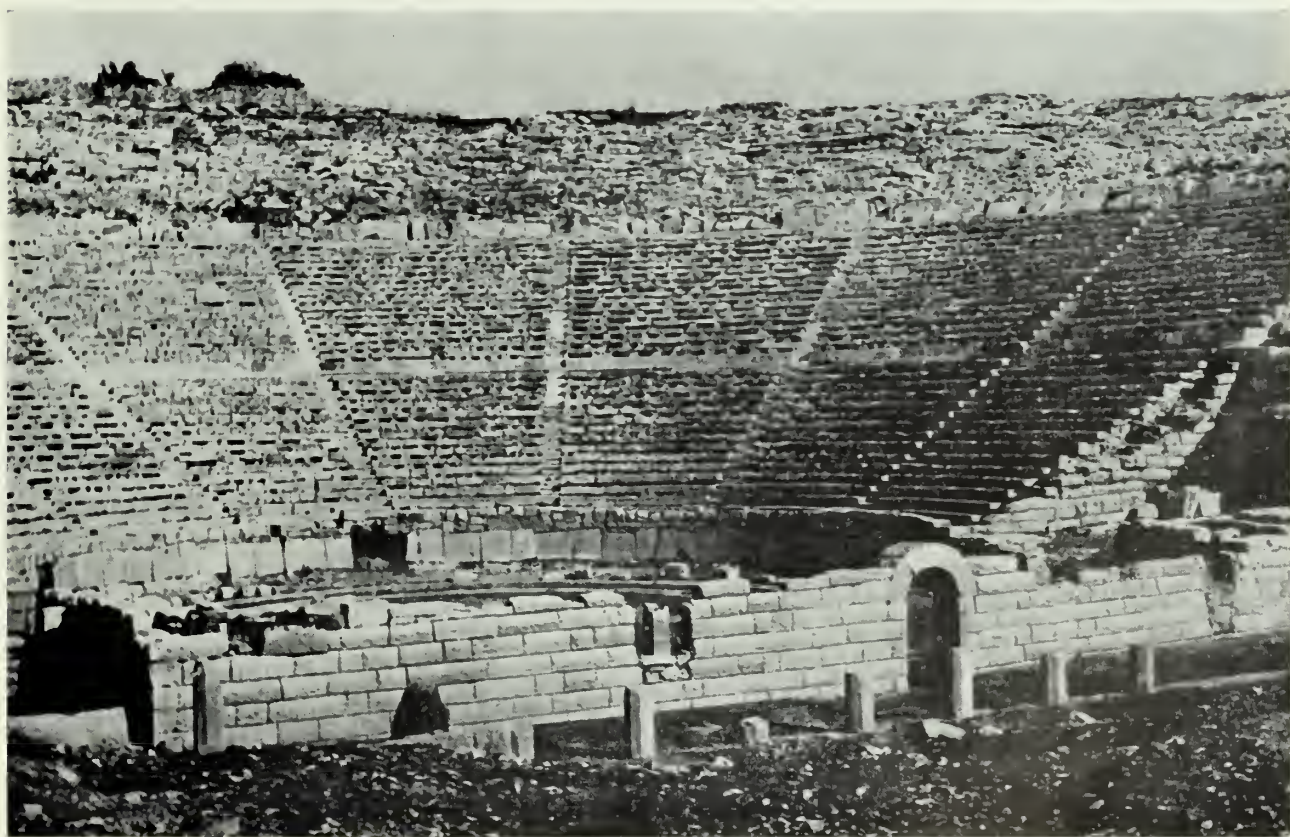


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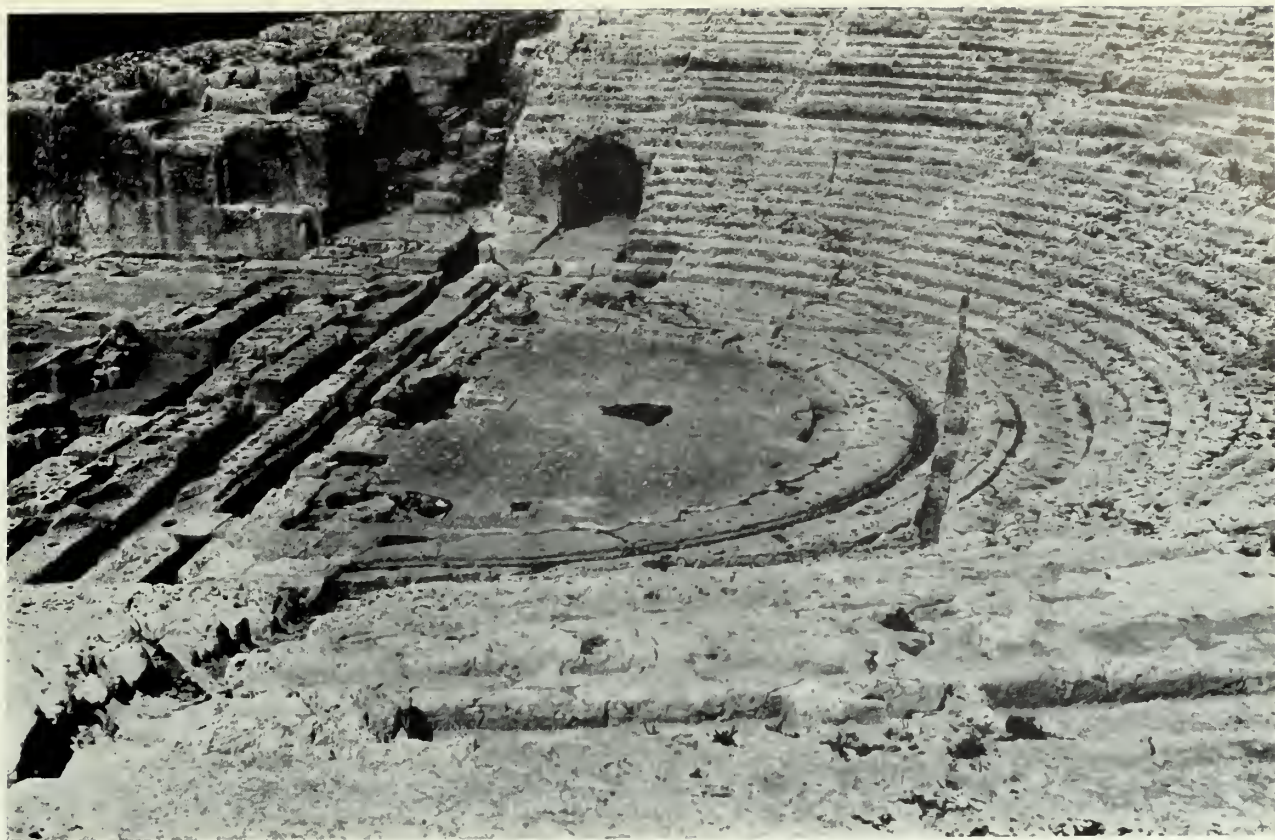


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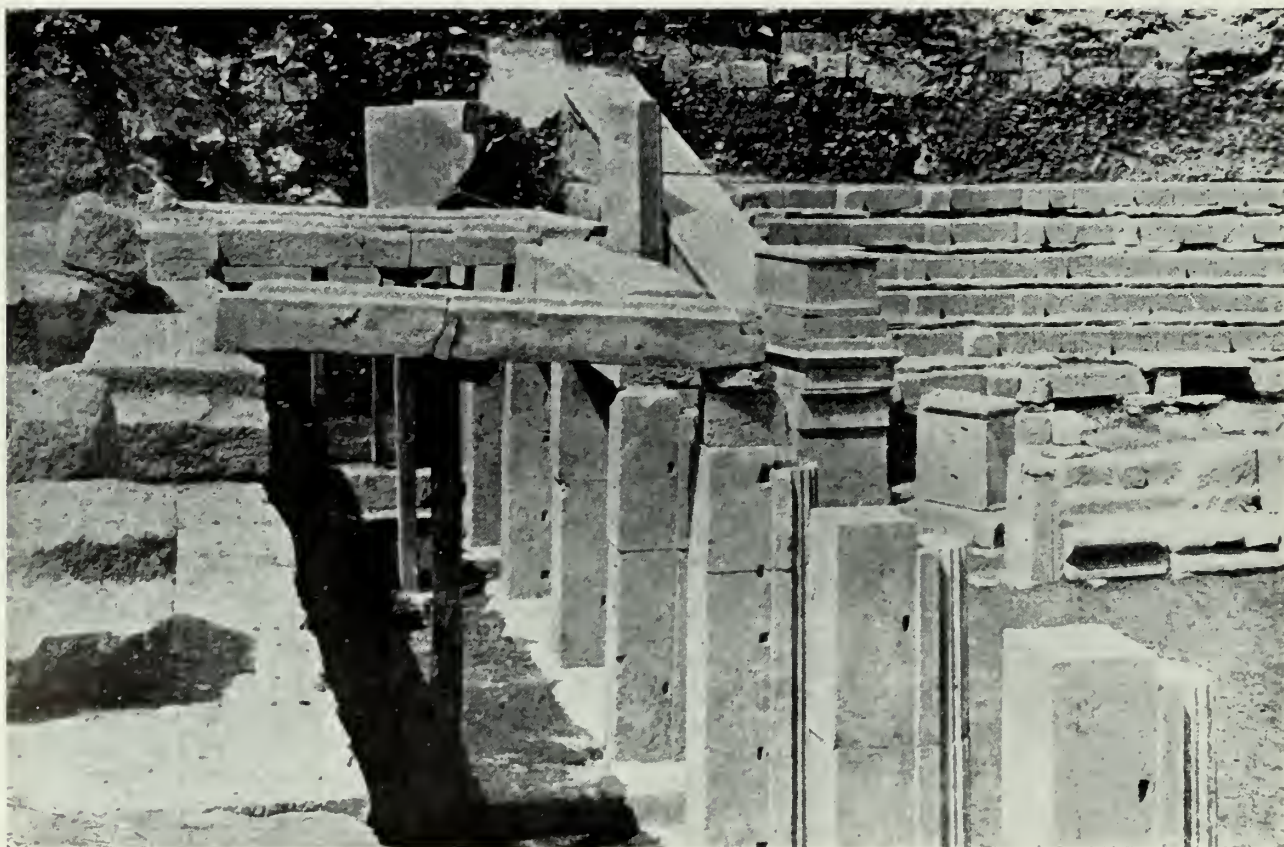


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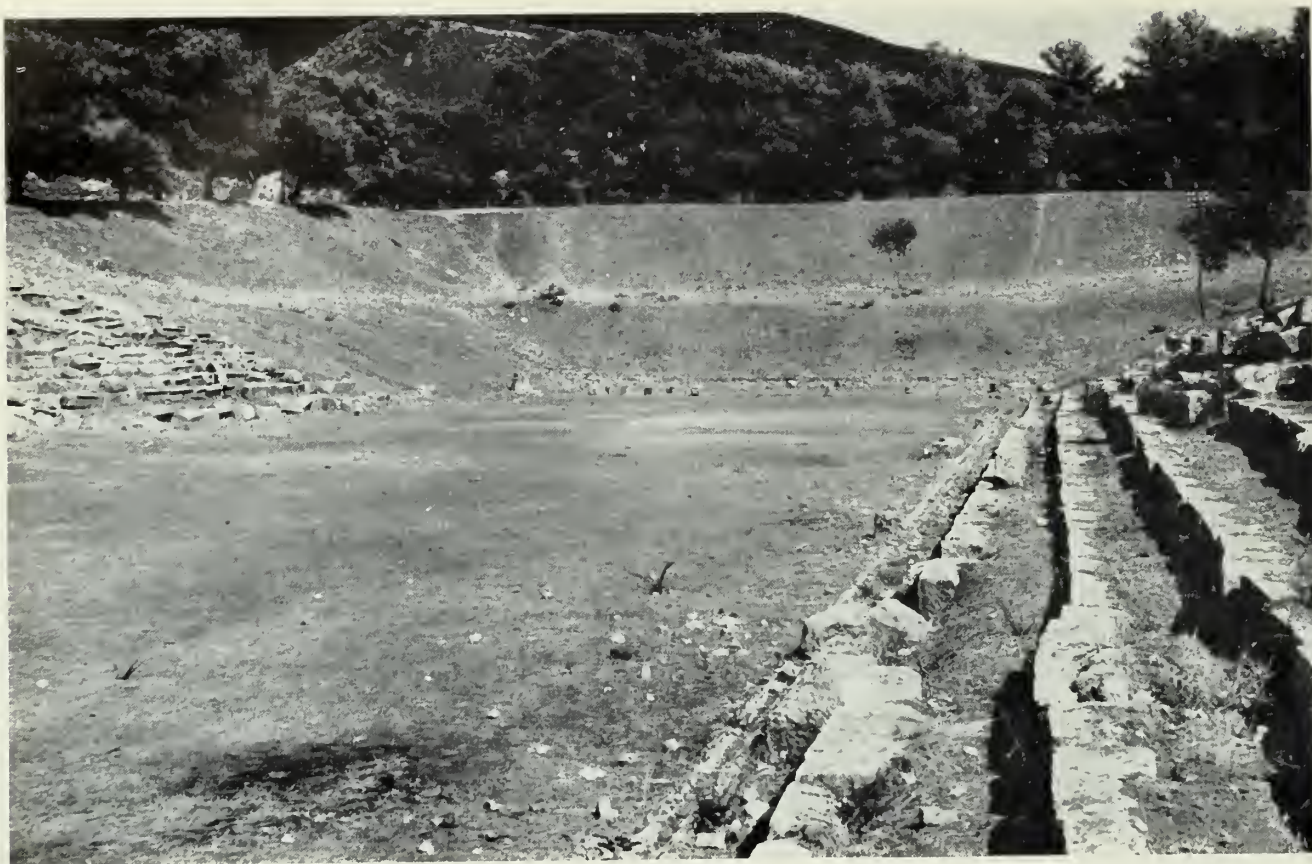


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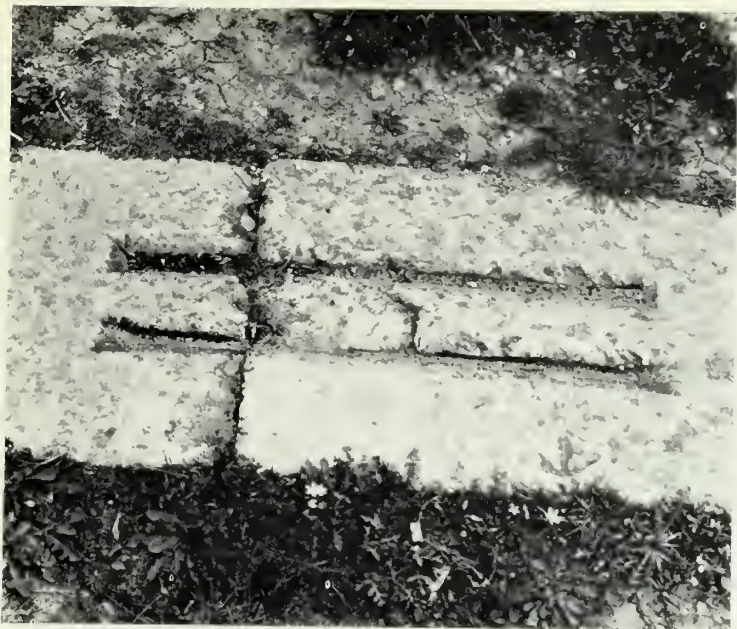


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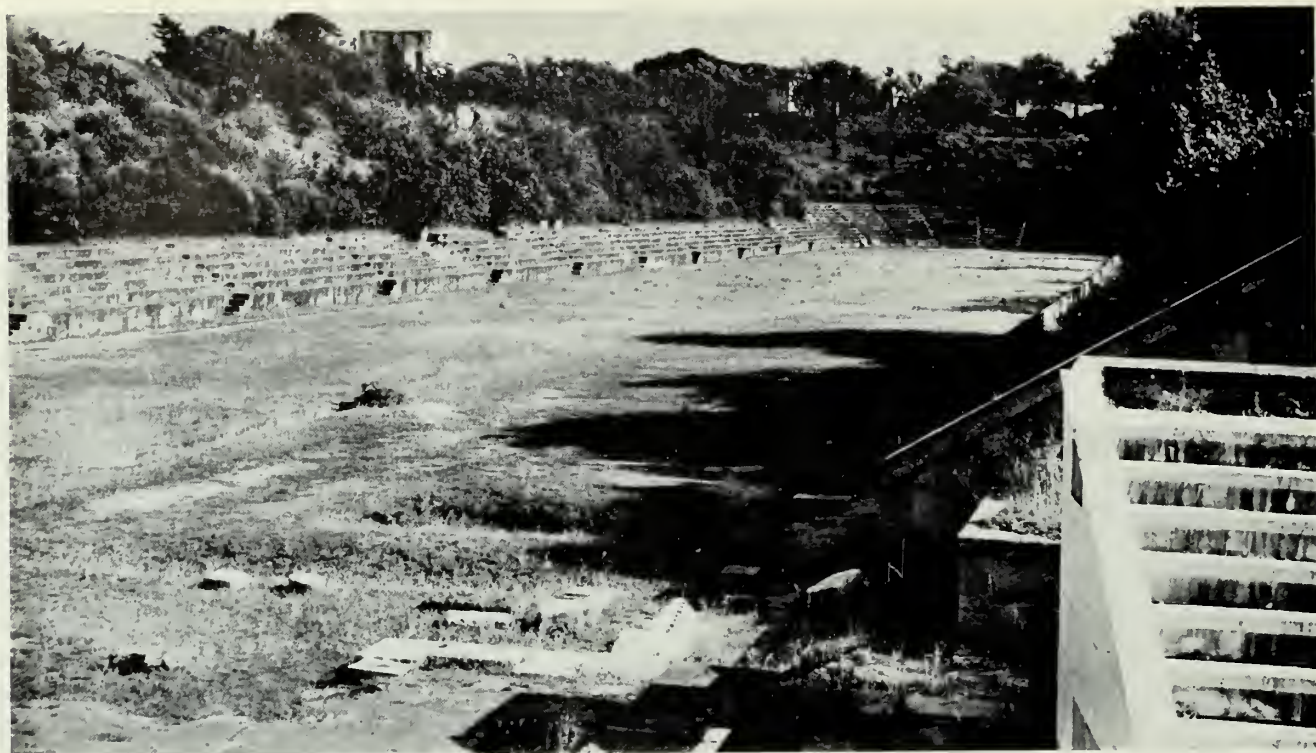


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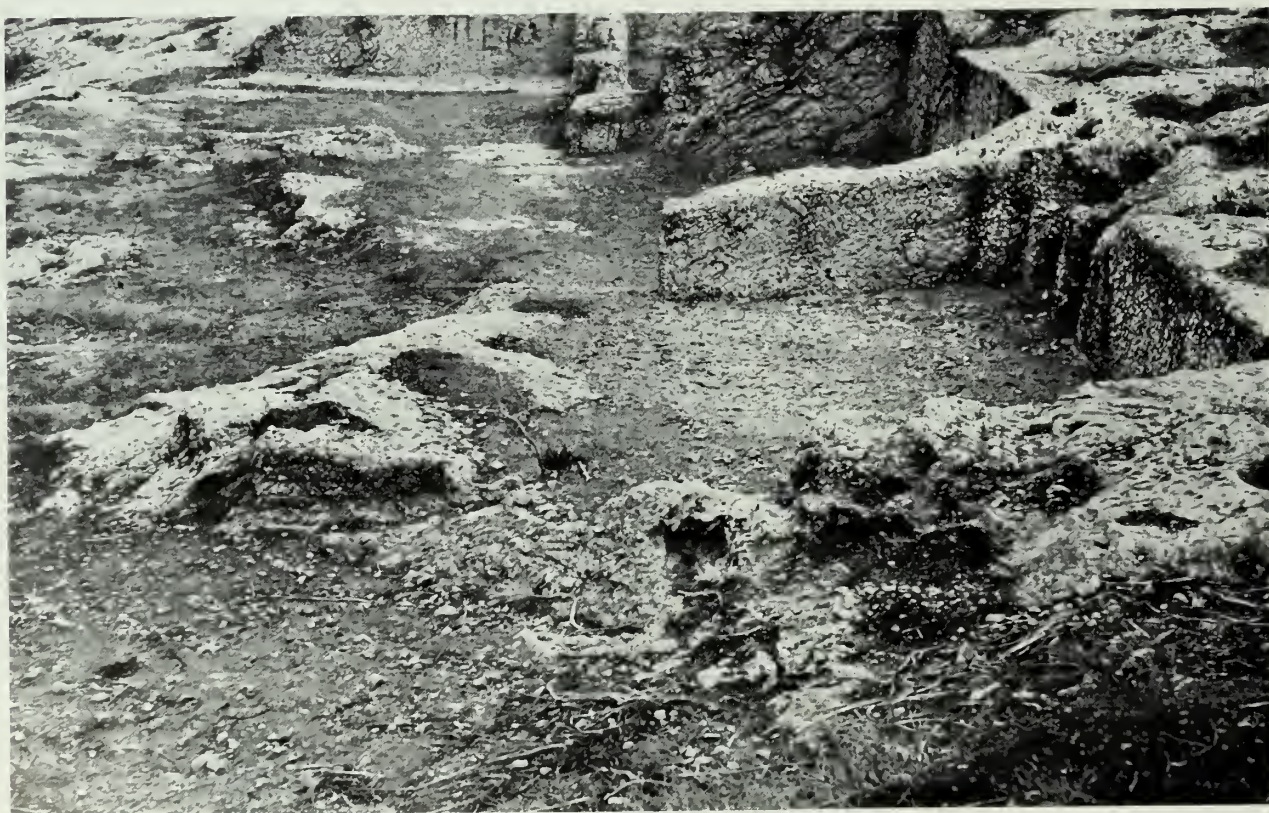


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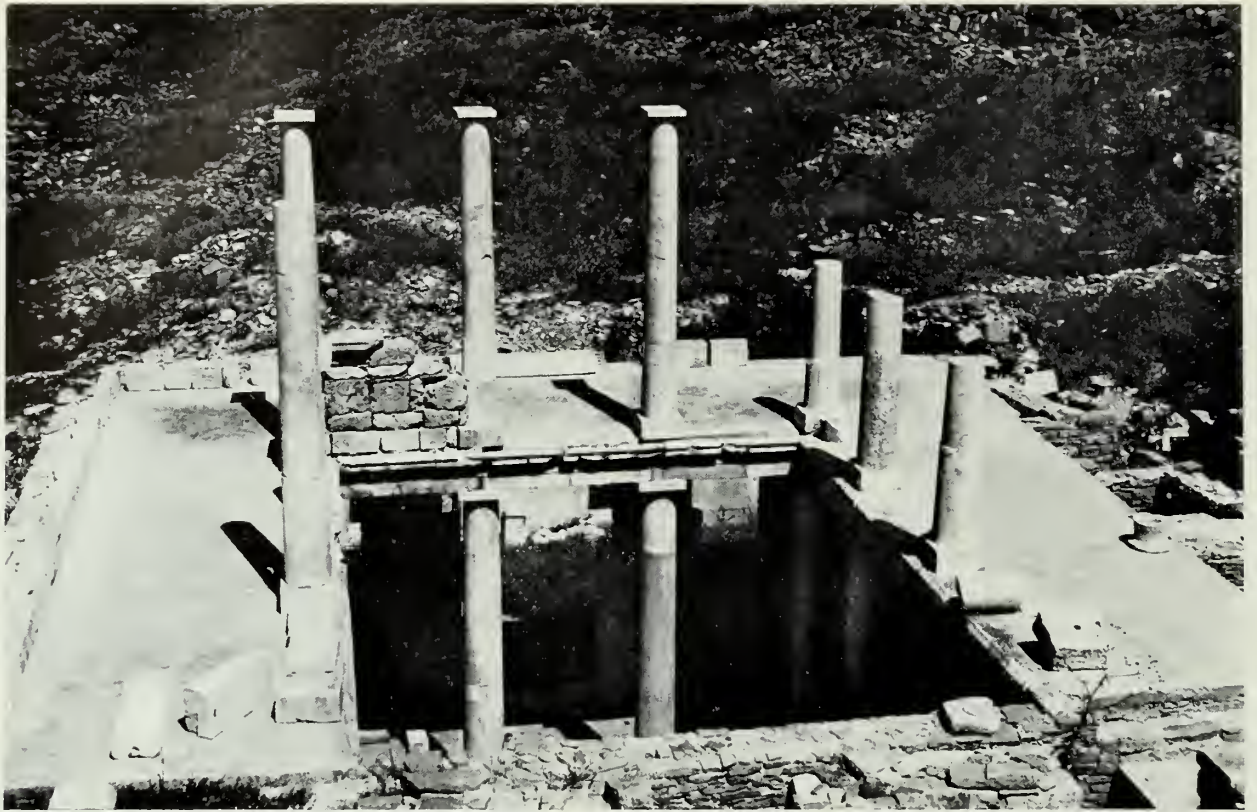


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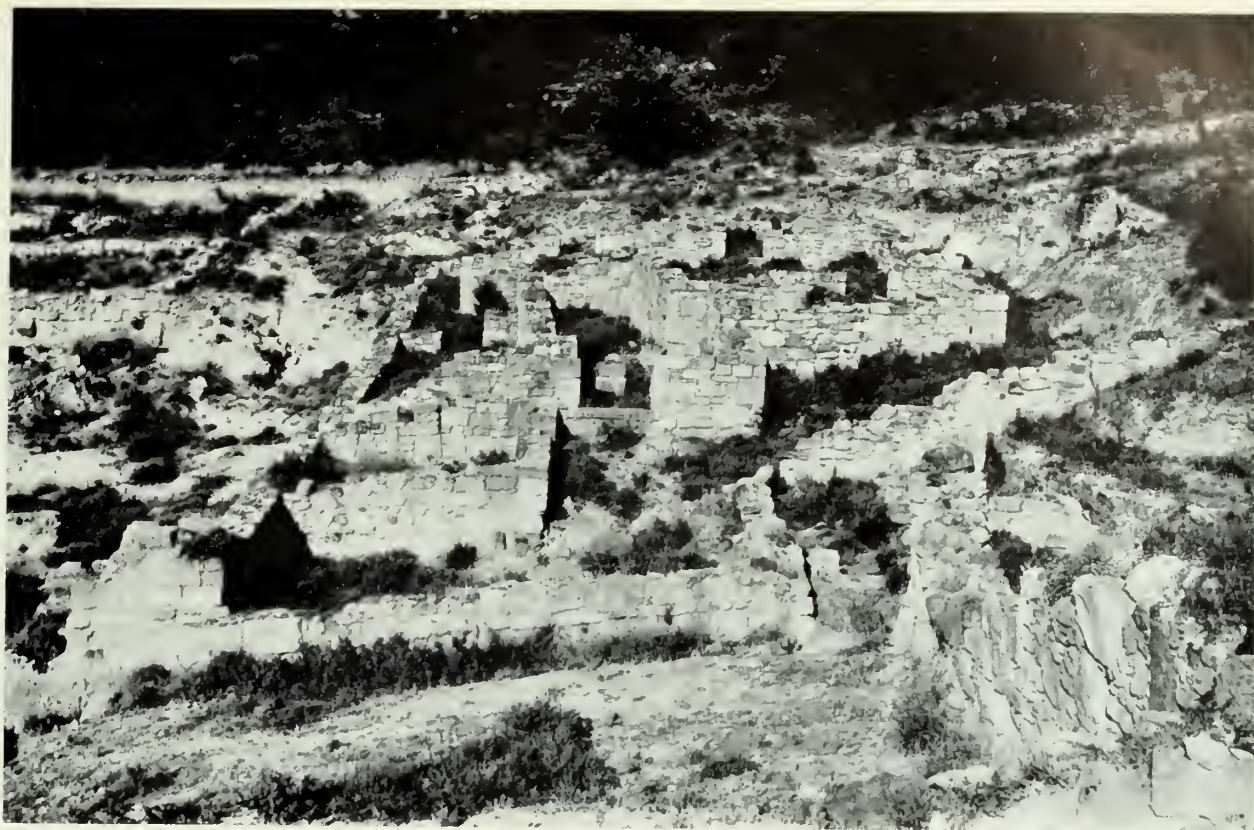


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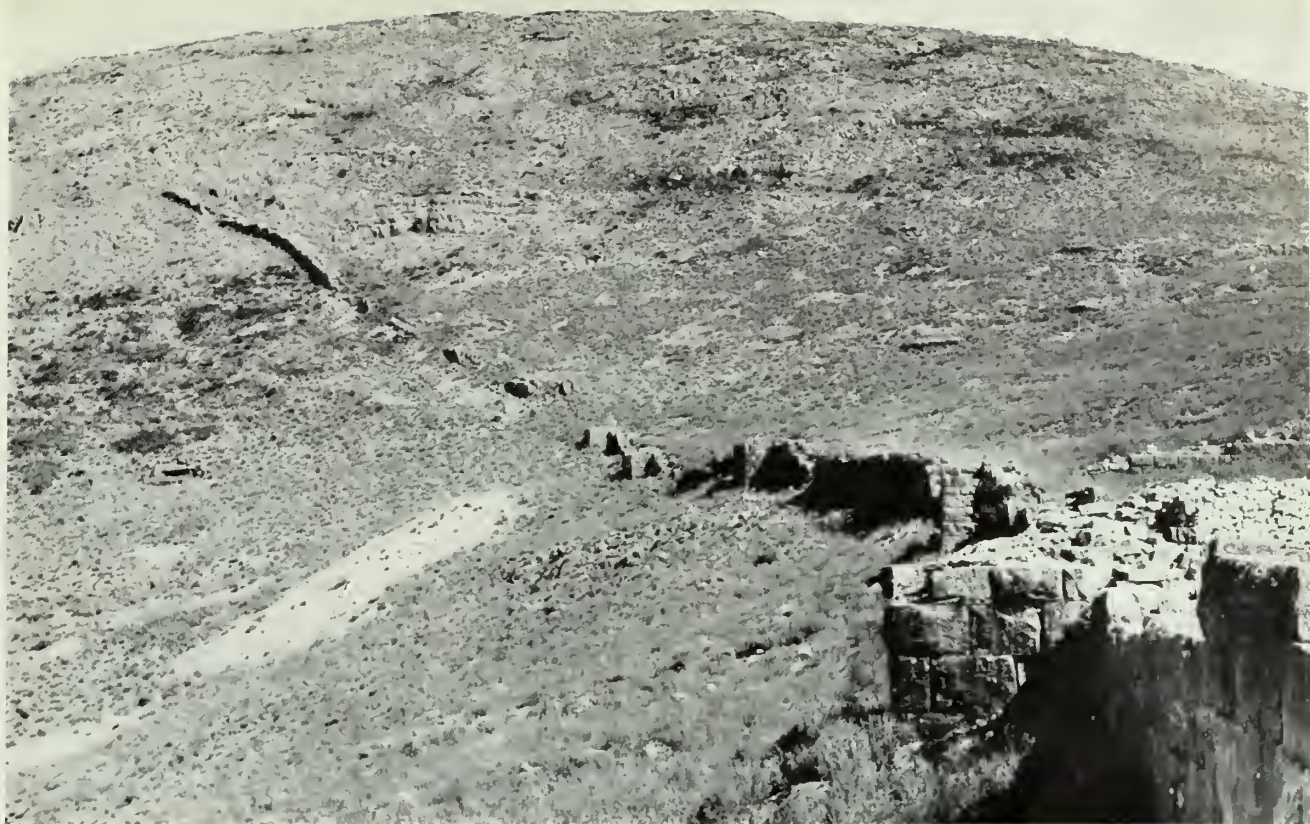


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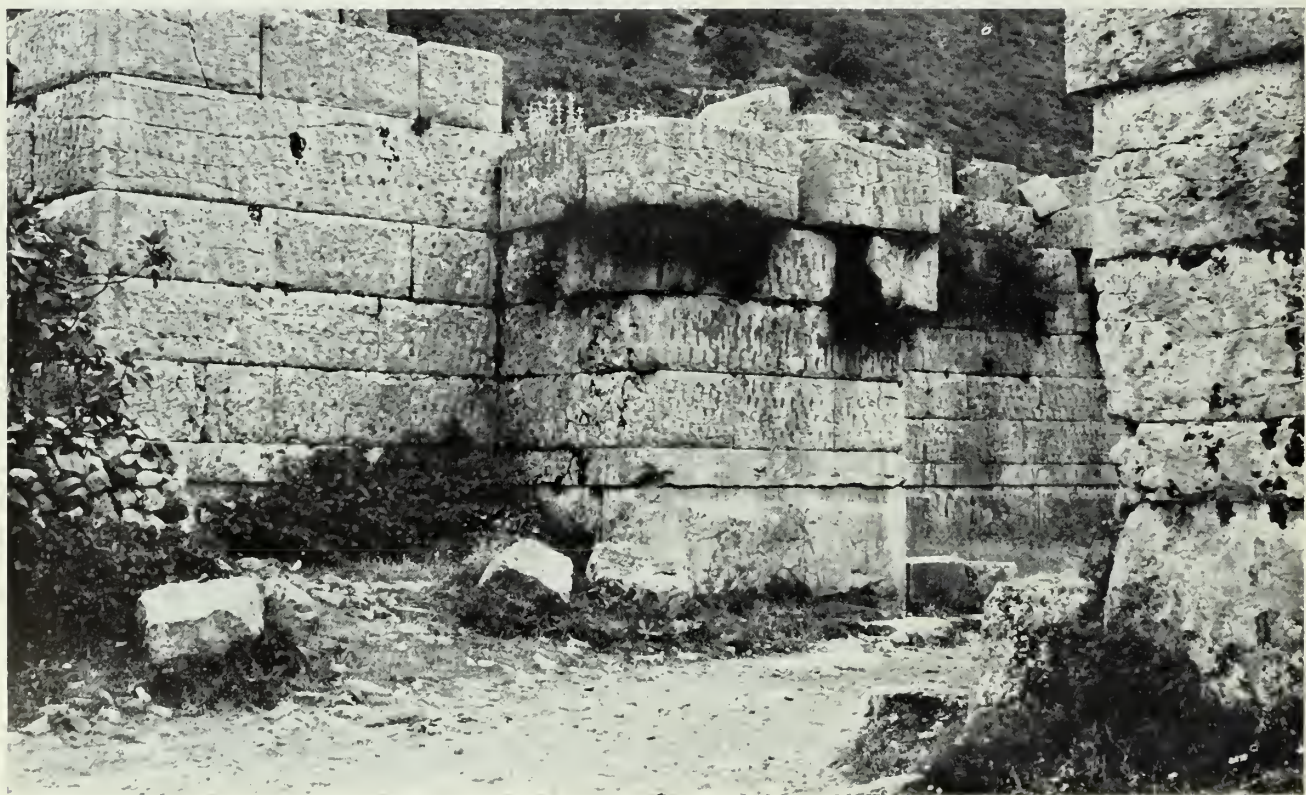


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